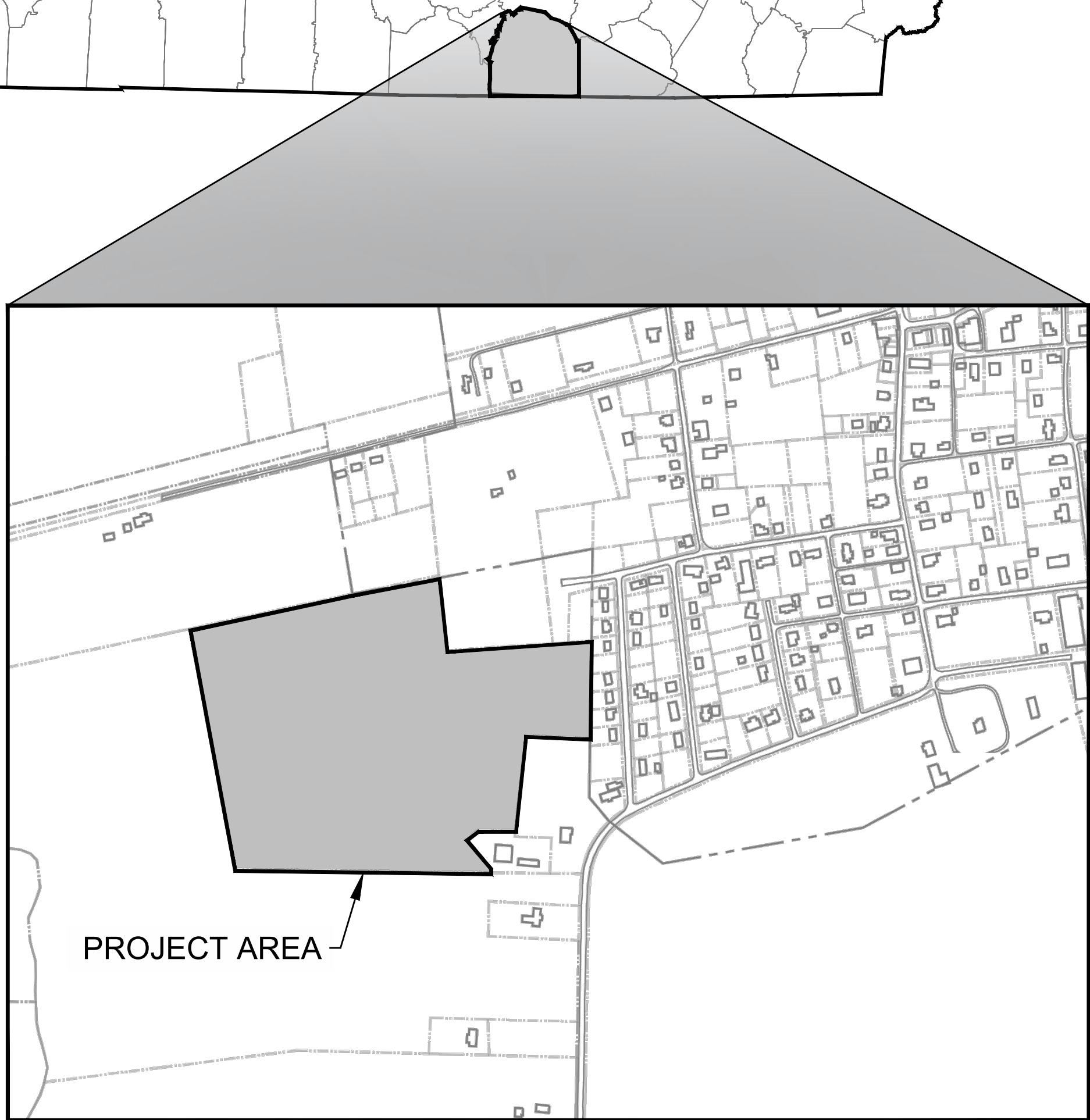
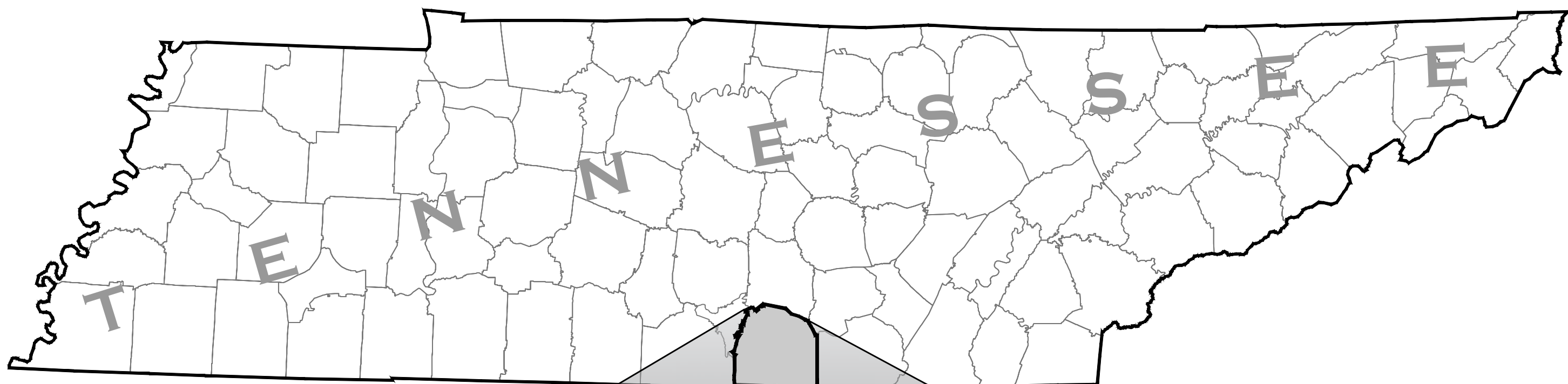




TOWN OF HUNTLAND WASTEWATER TREATMENT PLANT AND DRIP DISPERSAL FACILITIES

HUNTLAND, FRANKLIN COUNTY, TENNESSEE

EDA INVESTMENT #04-01-07294



VICINITY MAP

NOT TO SCALE

PROJECT TEAM

SURVEYING
JOHNSON & ASSOCIATES
816 DAVID CROCKETT HIGHWAY
WINCHESTER, TN 37398

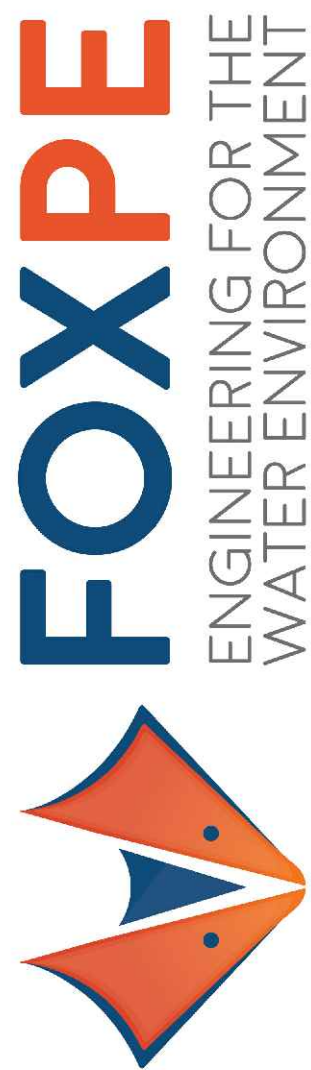
CIVIL & PROCESS
FOXPE
233 OCEOLA AVENUE #200
NASHVILLE, TN 37209

STRUCTURAL
CARPENTER WRIGHT ENGINEERS
111 SHERLAKE LANE, SUITE 200
KNOXVILLE, TN 37922

MECHANICAL, ELECTRICAL, & PLUMBING
WWR ENGINEERS, INC.
5417 BALL CAMP PIKE
KNOXVILLE, TN37921

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TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES



ISSUE
FOR
BID

GRADING & EXCAVATION

- 1

WHEN SPECIFIC GRADING REQUIREMENTS ARE NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL GRADE ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION, OR OTHERWISE DISTURBED BY CONSTRUCTION.
- 2

THE CONTRACTOR SHALL PERFORM ALL NECESSARY STRIPPING OF EXISTING TOPSOIL ON THE JOBSITE.
- 3

NEWLY GRADED, EARTH AREAS NOT TO BE PAVED, RIP-RAPPED, OR STABILIZED, SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS. PRIOR TO SEEDING, A FOUR INCH LAYER OF TOPSOIL SHALL BE PLACED ON THESE AREAS IN ACCORDANCE WITH SAID SPECIFICATIONS.
- 4

THE CONTRACTOR IS TO LEGALLY DISPOSE OF, AT HIS OWN EXPENSE, ALL UNSUITABLE AND/OR SURPLUS, EXCAVATED MATERIAL.
- 5

EXCAVATION ADJACENT TO EXISTING PAVEMENT SHALL BE MADE TO A NEAT LINE.
- 6

NO TREES SHALL BE REMOVED WITHOUT OWNER'S PERMISSION. ALL TREES THAT ARE CUT OR KNOCKED DOWN WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE. BURNING IS NOT PERMITTED, EXCEPT AS PROVIDED IN THE SPECIFICATIONS.

EROSION & SEDIMENT CONTROL

- 1

ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL REQUIREMENTS SHALL BE FOLLOWED DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL EROSION AND WATER POLLUTION THROUGH THE CONSTRUCTION PERIOD. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE BEFORE EARTH MOVING OPERATIONS BEGIN. CLEARING AND GRUBBING SHALL BE HELD TO A MINIMUM WIDTH NECESSARY TO ACCOMMODATE CONSTRUCTION SLOPES. EMBANKMENTS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED TO MINIMIZE EROSION. EROSION CHECKS AND SILT FENCE SHALL BE USED ALONG THE TOE OF FILL SLOPES, IN DITCHES, AND IN OTHER AREAS WHERE EROSION IS A PROBLEM AND SILT-LADEN RUNOFF MAY ENTER A STREAM OR ADJACENT PROPERTY.
- 2

ANY STOCKPILED SOIL OR FILL MATERIAL SHALL BE LOCATED AND TREATED IN A MANNER TO PREVENT SILT ENTERING STREAMS. NO EXCAVATED MATERIAL SHALL BE DISCHARGED INTO DITCHES. THE CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED MATERIAL IN A LOCATION, APPROVED BY THE ENGINEER, ABOVE THE NORMAL HIGH WATER ELEVATION.
- 3

THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL EROSION CONTROL PROVISIONS AS SET FORTH IN THE EROSION & SEDIMENT CONTROL HANDBOOK AVAILABLE FROM THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION.
- 4

THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL MEASURES THROUGHOUT THE LENGTH OF THE CONTRACT AS REQUIRED.
- 5

THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION AND WATER CONTROL MEASURES (SUCH AS BERMS, SEDIMENT BASINS, SLOPE DRAINS, AND SILT FENCES) AS DIRECTED BY THE ENGINEER.
- 6

NO EARTH OR OTHER ERODIBLE MATERIAL SHALL BE USED TO DIVERT STREAM FLOW OR TO CONSTRUCT COFFERDAMS. CLEAN CUT ROCK WITH FINES MAY BE USED, OR, IN THE CASE OF COFFERDAMS, STEEL SHEETING OR SAND BAGS IS PERMISSIBLE. WATER OR SEDIMENT ISOLATED BY COFFERDAMS SHALL BE PUMPED INTO SEDIMENT BASINS ON THE BANK OF THE STREAM.

UTILITIES

- 1

LOCATIONS OF UTILITIES, PUBLIC AND/OR PRIVATE, ARE APPROXIMATE ONLY, AND THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. IT IS POSSIBLE THAT SOME EXISTING FACILITIES ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITY FACILITIES LOCATED AND MARKED PRIOR TO THE BEGINNING OF CONSTRUCTION.
- 2

THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY OWNERS PRIOR TO INTERRUPTING ANY ELECTRICAL, COMMUNICATIONS, GAS, WATER, OR SEWER SERVICES. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY CUSTOMERS AT LEAST 24 HOURS BEFORE INTERRUPTING THE CUSTOMERS' SERVICE. WHERE INDIVIDUAL SERVICES ARE TO BE DISCONTINUED FOR MORE THAN 8 HOURS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR PROVIDING TEMPORARY SERVICE SATISFACTORY TO THE AFFECTED CUSTOMER. THE REPAIR OR REPLACEMENT OF UTILITY COMPONENTS SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF THE UTILITY OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THESE ACTIVITIES.
- 3

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. SHOULD SPECIAL EQUIPMENT BE REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR SHALL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FOR FURNISHING SPECIAL EQUIPMENT SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- 4

ANY EXISTING STORM DRAINAGE PIPING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AS RAPIDLY AS POSSIBLE AND THEN BE INSPECTED BY ITS RESPECTIVE OWNER.
- 5

IF ANY UTILITIES ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY'S OWNER. REPAIR OF THE UTILITY SHALL THEN BE ACCORDING TO THE OWNER'S INSTRUCTIONS, AND ALL COST PAID FOR BY CONTRACTOR.

MISCELLANEOUS

- 1

THE ENGINEER SHALL HAVE THE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION.
- 2

THE OWNER MAKES NO REPRESENTATIONS ABOUT SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT. THE CONTRACTOR SHOULD SATISFY HIMSELF BY ON-SITE INSPECTIONS, CORE DRILLINGS, OR OTHER METHODS, OF THE SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED. THE RISK OF ENCOUNTERING AND CORRECTING UNFAVORABLE SUBSURFACE CONDITIONS SHALL BE BORNE SOLELY BY THE CONTRACTOR.
- 3

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL FIELD LAYOUTS.
- 4

ALL SALVAGEABLE MATERIAL FROM EXISTING PIPING AND STRUCTURES SHALL REMAIN PROPERTY OF THE OWNER. SAID MATERIAL SHALL BE CLEANED AND THEN DELIVERED TO THE OWNER AT A LOCATION DESIGNATED BY THE ENGINEER.
- 5

ALL UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER OR THROUGH TESTING, IS TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
- 6

THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING AT HIS OWN EXPENSE ANY AND ALL DAMAGE THAT MAY OCCUR INSIDE AND OUTSIDE THE LIMITS OF THIS PROJECT AS A RESULT OF CONSTRUCTION.
- 7

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PAYMENT FOR TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND ORDERING APPROPRIATE TESTS AS REQUIRED. THE TESTING COMPANIES SHALL BE APPROVED BY OWNER AND ENGINEER.
- 8

THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE PROJECT WITHIN THIRTY (30) DAYS AFTER SUBSTANTIAL COMPLETION OF THE WORK. ("SUBSTANTIAL COMPLETION" SHALL BE DEFINED BY THE SPECIFICATIONS). THE OWNER RESERVES THE RIGHT TO WITHHOLD RETAINAGE UNTIL RECEIVING A COMPLETE SET OF SAID RECORD DRAWINGS.
- 9

SHOULD THERE BE A CONFLICT BETWEEN THESE GENERAL NOTES, CONTRACT DRAWINGS, AND/OR SPECIFICATIONS, THE MOST RESTRICTIVE INTERPRETATION IN FAVOR OF THE OWNER SHALL PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY CLARIFICATION OR INTERPRETATION OF GENERAL NOTES, CONTRACT DRAWINGS, AND/OR SPECIFICATIONS, IN ADVANCE AND IN WRITING, FROM THE ENGINEER.

PROJECT SPECIFIC NOTES

- 1

CONTRACTOR TO VERIFY ELEVATIONS OF EXISTING STRUCTURES PRIOR TO SUBMITTAL OF EQUIPMENT OR MATERIALS.
- 2

REPLACE ALL EXISTING PAVEMENT IN STREETS, DRIVEWAYS, OR PARKING AREAS WHICH IS REMOVED, DESTROYED, OR DAMAGED BY CONSTRUCTION OF IMPROVEMENTS.
- 3

SHOULD ARTIFACTS OR ARCHEOLOGICAL REMAINS BE ENCOUNTERED DURING PROJECT ACTIVITIES, WORK SHALL CEASE AND THE TENNESSEE HISTORICAL COMMISSION AND THE ECONOMIC DEVELOPMENT ADMINISTRATION SHALL BE CONSULTED IMMEDIATELY. ARTIFACTS CAN INCLUDE BUT ARE NOT LIMITED TO ARROWHEADS, BROKEN PIECES OF POTTERY OR GLASS, STONE IMPLEMENTS, METAL FASTENERS OR TOOLS, HUMAN REMAINS, ETC. ARCHAEOLOGICAL FEATURES ARE STAINS IN THE SOIL THAT INDICATE DISTURBANCE BY HUMAN ACTIVITY. SOME EXAMPLES ARE POST HOLES, BUILDING FOUNDATIONS, TRASH PITS, AND HUMAN BURIALS.

ABBREVIATIONS

GENERAL

ABV	ABOVE	GAL	GALLON	R	RISER
AD	AREA DRAIN	GALV	GALVANIZED	RAD	RADIUS
ADJ	ADJUSTABLE	GND	GROUND	RD	ROOF DRAIN
AFV	ABOVE FINISH FLOOR	GV	GATE VALVE	REF	REFERENCE
ALT	ALTERNATE			REINF	REINFORCED
APPROX	APPROXIMATE	HC	HANDICAPPED	REQ	REQUIRED
ARCH	ARCHITECT	HDWR	HARDWARE	RM	ROOM
		HT	HEIGHT	RO	ROUGH OPENING
B&J	BORE AND JACK	HORIZ	HORIZONTAL		
BET	BETWEEN	HR	HOUR	S	SOUTH
BGS	BELOW GRADE SURFACE			SC	SERVICE CONNECTION
BLDG	BUILDING	ID	INNER DIAMETER	SCHED	SCHEDULED
BLW	BELOW	INSUL	INSULATION	SEAL	SEALANT
BO	BOTTOM OF	INT	INTERIOR	SECT	SECTION
BOT	BOTTOM	KILO	KILOGRAM	SF	SQUARE FOOT
				SHT	SHEET
CLG	CEILING	LB(S)	POUNDS	SIM	SIMILAR
CLR	CLEAR	LDG	LANDING	SPEC	SPECIFICATION
CONC	CONCRETE	LF	LINEAR FOOT	SQ	SQUARE
CONT	CONTINUOUS	LT	LIGHT	SS	SANITARY SEWER
CTR	CENTER			STD	STANDARD
				STOR	STORAGE
DBL	DOUBLE	MAX	MAXIMUM	STRUCT	STRUCTURAL
DET	DETAIL	MECH	MECHANICAL	SUSP	SUSPENDED
DIA	DIAMETER	MEMB	MEMBRANE	SYM	SYMMETRICAL
DIM	DIMENSION	MFR	MANUFACTURER		
DN	DOWN	MIN	MINIMUM	TEL	TELEPHONE
DR	DOOR	MISC	MISCELLANEOUS	THK	THICK
DS	DOWN SPOUT	MJ	MECHANICAL JOINT	THR	THRESHOLD
DWG	DRAWING	MTD	MOUNTED	TO	TOP OF
				TYP	TYPICAL
E	EAST	N	NORTH		
EA	EACH	NIC	NOT IN CONTRACT	UC	UNDERCUT
ELECT	ELECTRIC(AL)	NO	NUMBER	UNFIN	UNFINISHED
ELEV	ELEVATION	NOM	NOMINAL	UNO	UNLESS NOTED OTHERWISE
EMER	EMERGENCY	NTS	NOT TO SCALE	UTIL	UTILITY
ENCL	ENCLOSURE				
EQ	EQUAL	OA	OVERALL	VERT	VERTICAL
ETR	EXISTING TO REMAIN	OC	ON CENTER (DIMENSION)	VIF	VERIFY IN FIELD
EXST	EXISTING	OC	OPEN CUT (METHOD)		
EQUIP	EQUIPMENT	OD	OUTSIDE DIAMETER	W	WEST
		OFF	OFFICE	WT	WEIGHT
FA	FIRE ALARM	OPG	OPENING	W/	WITH
FD	FLOOR DRAIN	OPP	OPPOSITE	W/O	WITHOUT
FH	FIRE HYDRANT			WP	WATERPROOF
FIN	FINISH	PNT	POINT		
FLR	FLOOR	PR	PAIR		
FT	FOOT OR FEET	PTD	PAINTED		
FO	FACE OF				

PIPE MATERIALS

BSP	BLACK STEEL PIPE	CC	CORRUGATED COUPLING
CIP	CAST IRON PIPE	CPL	COUPLING
CISP	CAST IRON SOIL PIPE	FLG	FLANGE
CMP	CORRUGATED METAL PIPE	FREJ	FLEXIBLE RUBBER EXPANSION JOINT
CP	CONCRETE PIPE	MJ	MECHANICAL JOINT
CPVC	CHLORINATED POLYVINYL CHLORIDE	OR	"O" RING
CSP	CARBON STEEL PIPE (SEAMLESS)	PE	PLAIN END
CU	COPPER	PO	PUSH ON
DIP	DUCTILE IRON PIPE	RJ	RESTRAINED JOINT
FRP	FIBERGLASS REINFORCED PIPE	SW	SOLVENT WELD
GIP	GALVANIZED IRON PIPE	SWT	SWEAT
GSP	GALVANIZED STEEL PIPE	NPT	THREADED
HDPE	HIGH DENSITY POLYETHYLENE		
IP	IRON PIPE		
PB	POLYBUTLENE		
PCP	PRESTRESSED CONCRETE PRESSURE		
PE	POLYETHYLENE		
PP	POLYPROPYLENE		
PVC	POLYVINYL CHLORIDE		
RCP	REINFORCED CONCRETE PIPE		
RH	RUBBER HOSE		
SSTL	STAINLESS STEEL		
STL	STEEL (FABRICATED)		
VCP	VITRIFIED CLAY PIPE		

VALVE TYPES

ARV	AIR RELEASE VALVE
BLV	BALL VALVE
BFV	BUTTERFLY VALVE
CNV	CONE VALVE
CV	CHECK VALVE
DV	DIAPHRAGM VALVE
GV	GATE VALVE
GBV	GLOBE VALVE
KV	KNIFE VALVE
MO	MOTOR OPERATED VALVE
MV	MUD VALVE
NV	NEEDLE VALVE
PHV	PINCH VALVE
PV	PLUG VALVE
PRV	PRESSURE REDUCING VALVE

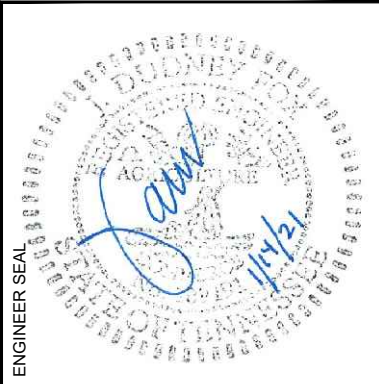
JOINT TYPES

CC	CORRUGATED COUPLING
CPL	COUPLING
FLG	FLANGE
FREJ	FLEXIBLE RUBBER EXPANSION JOINT
MJ	MECHANICAL JOINT
OR	"O" RING
PE	PLAIN END
PO	PUSH ON
RJ	RESTRAINED JOINT
SW	SOLVENT WELD
SWT	SWEAT
NPT	THREADED

FOXPE

ENGINEERING FOR THE WATER ENVIRONMENT

233 OCEOLA AVENUE #200
NASHVILLE, TENNESSEE 37209
FOXPE.COM

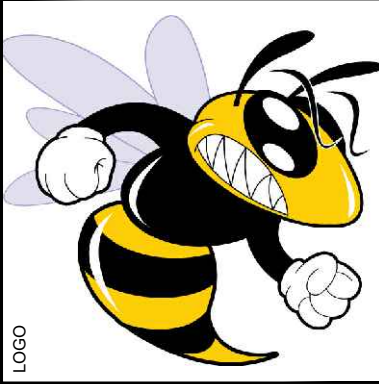


PROJECT

TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES

37000-004



NORTH	DRAWN BY CAJ
	APPROVED BY JDF

DATE	ISSUE
2/26/21	IFB


TITLE

GENERAL NOTES





DRAWING NO.

G2.0

CIVIL

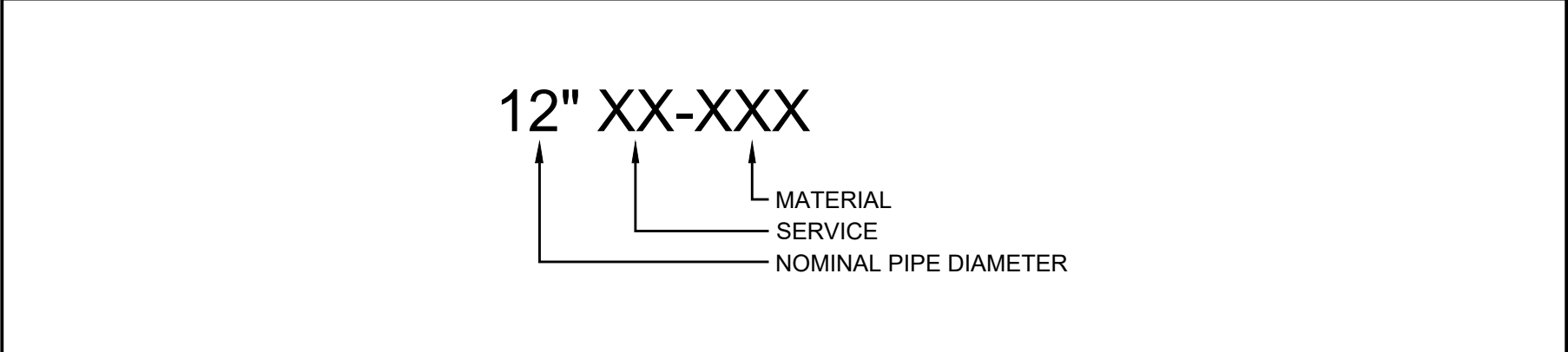
EXISTING		PROPOSED	
GAS LINE		GAS LINE	
GAS LINE ABANDONED			
WATER LINE		WATER LINE	
WATER LINE ABANDONED			
SANITARY SEWER		SANITARY SEWER	
SANITARY SEWER ABANDONED			
FORCEMAIN		FORCEMAIN	
FORCEMAIN ABANDONED			
STORM SEWER		STORM SEWER	
OVERHEAD ELECTRIC		PERFORATED PIPE	
UNDERGROUND ELECTRIC			
FIBER OPTICS			
BUILDING/STRUCTURE		BUILDING/STRUCTURE	
ROADWAY		ROADWAY	
ROADWAY CENTERLINE		ROADWAY CENTERLINE	
SIDEWALK/CONCRETE		SIDEWALK/CONCRETE	
CONTOUR (MAJOR)		CONTOUR (MAJOR)	
CONTOUR (MINOR)		CONTOUR (MINOR)	
DITCH LINE		DITCH LINE	
STREAM			
PROPERTY LINE			
EASEMENT			
AIR RELEASE VALVE		AIR RELEASE VALVE	
SANITARY SEWER MANHOLE		SANITARY SEWER MANHOLE	
CLEANOUT		CLEANOUT	
CATCH BASIN		CATCH BASIN	
DRAINAGE MANHOLE		DRAINAGE MANHOLE	
HEADWALL		HEADWALL	
WATER METER BOX		WATER METER BOX	
VALVE		VALVE	
HYDRANT		HYDRANT	
CAP		YARD HYDRANT	
		CAP	
POWER POLE		TAPPING SLEEVE ASSEMBLY	
LIGHT POLE		POWER POLE	
GUY		LIGHT POLE	
COMMUNICATIONS MANHOLE		GUY	
		COMMUNICATIONS MANHOLE	

PROCESS






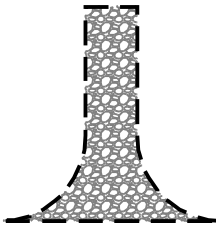

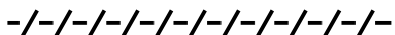

PIPING & STRUCTURE		
	EXISTING	NEW
PIPING		
STRUCTURE		

VALVES & FITTINGS		
	SINGLE LINE	DOUBLE LINE
BALL VALVE (BLV)		
BUTTERFLY VALVE (BFV)		
PLUG VALVE (PV)		
CHECK VALVE (CV)		
GATE VALVE (GV)		
KNIFE GATE VALVE (KGV)		
SOLENOID VALVE (SV)		
NEEDLE VALVE (NV)		
FLUSHING CONNECTION W/ QUICK DISCONNECT		
PIPING		
WELDED JOINT		
FLANGED JOINT		
MECHANICAL JOINT		
PUSH-ON		
FLANGE ADAPTER (FA)		
RESTRAINED FLANGE ADAPTER (RFA)		
EXPANSION COUPLING		

PIPE LINE IDENTIFICATION

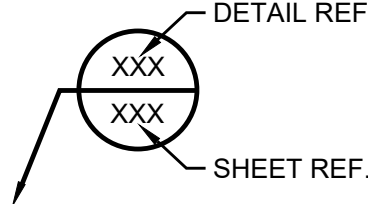


MISCELLANEOUS

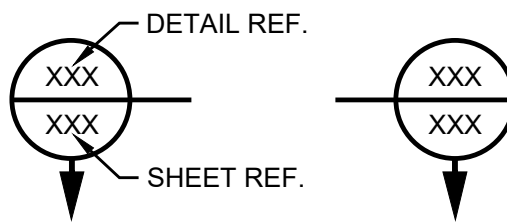
EROSION CONTROL	
SILT FENCE	
RIP-RAP	
INLET PROTECTION	
CHECK DAM	
EROSION EEL / WATTLE	
CONSTRUCTION ENTRANCE	
DEMOLITION	
STRUCTURE/EQUIPMENT	
PIPING (SINGLE LINE)	
PIPING (DOUBLE LINE)	

DRAWING ANNOTATION

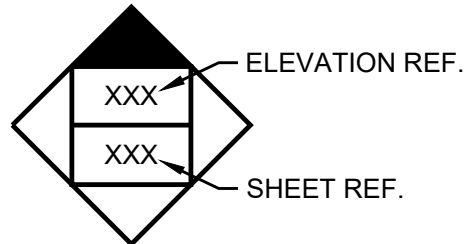
DETAIL MARKER




SECTION MARKER



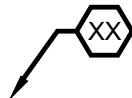
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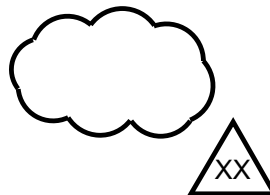
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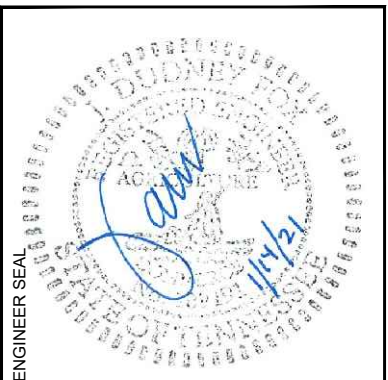

SHEET SPECIFIC NOTE MARKER



REVISION CLOUD & MARKER



CENTERLINE

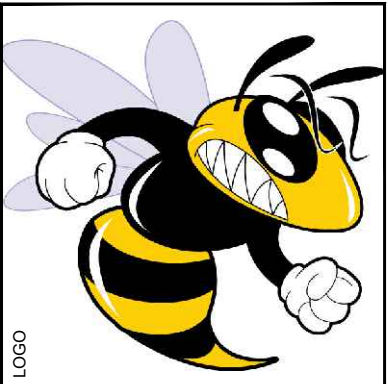


PROJECT

TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT
AND DRIP DISPERAL FACILITIES

3700-004



NORTH	DRAWN BY
	CAJ
	APPROVED BY
	JDF

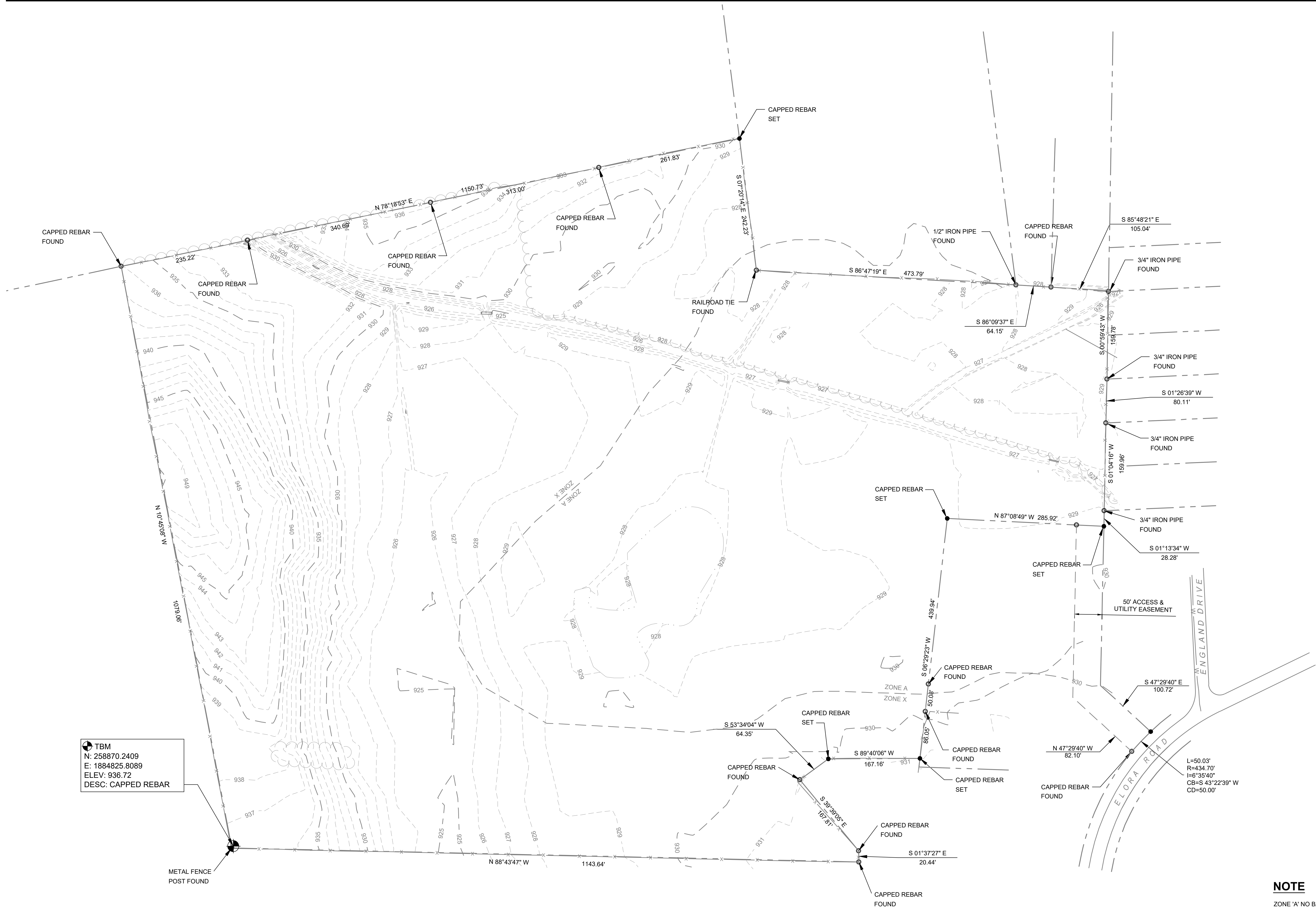
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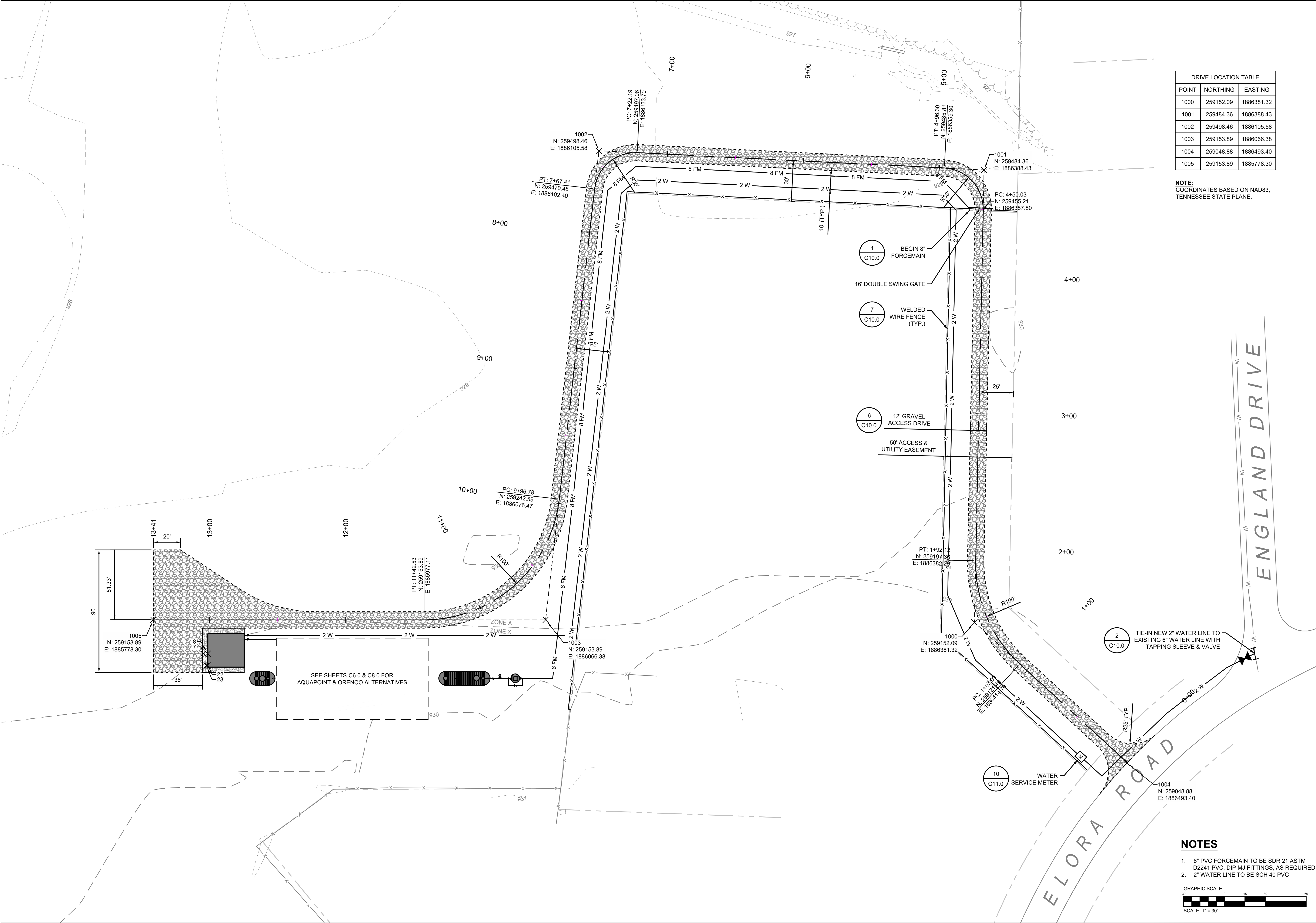
LEGEND &
SYMBOLLOGY

DRAWING NO.

G3.0



DATE	ISSUE
2/26/21	IFB



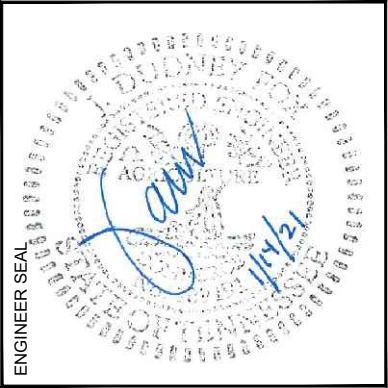
DRIVE LOCATION TABLE		
POINT	NORTHING	EASTING
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1001	259484.36	1886388.43
1002	259498.46	1886105.58
1003	259153.89	1886066.38
1004	259048.88	1886493.40
1005	259153.89	1885778.30

NOTE:
COORDINATES BASED ON NAD83,
TENNESSEE STATE PLANE.

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ENGINEERING FOR THE
WATER ENVIRONMENT

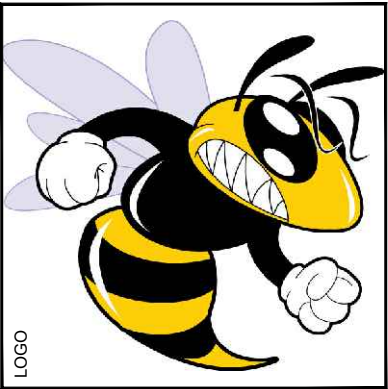
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TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES

3700-004



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TITLE

PROPOSED SITE
LAYOUT

DRAWING NO.

C2.0

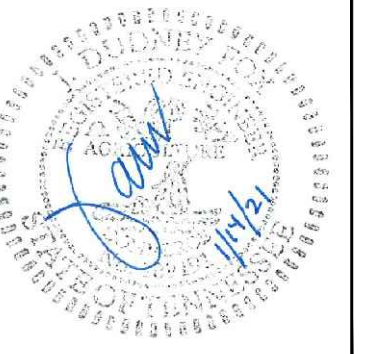
EPSC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE SEQUENCE BELOW TO MINIMIZE SOIL EROSION AND SEDIMENTATION DURING LAND DISTURBANCE ACTIVITIES.

- TS** TEMPORARY VEGETATION
- PS** PERMANENT VEGETATION

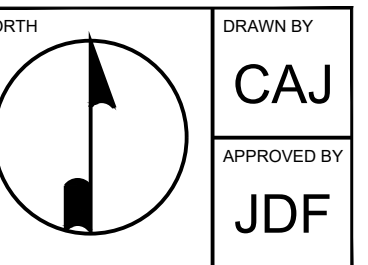
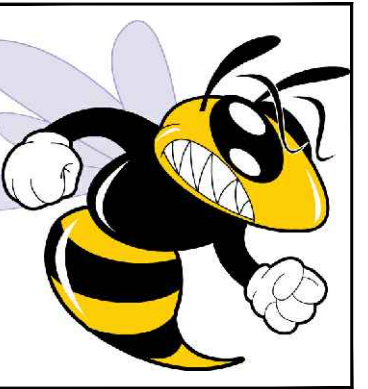


GRAPHIC SCALE

SCALE: 1" = 80'



TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERAL FACILITIES
3700-004

[illegible]

TITLE PRELIMINARY
EROSION
PREVENTION &
SEDIMENT CONTROL

C3.0

EPSC CONSTRUCTION SEQUENCING

EPSC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE SEQUENCE BELOW TO MINIMIZE SOIL EROSION AND SEDIMENTATION DURING LAND DISTURBANCE ACTIVITIES.

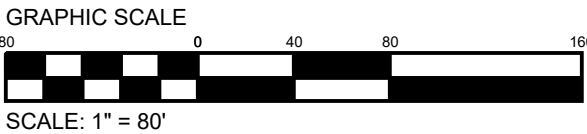
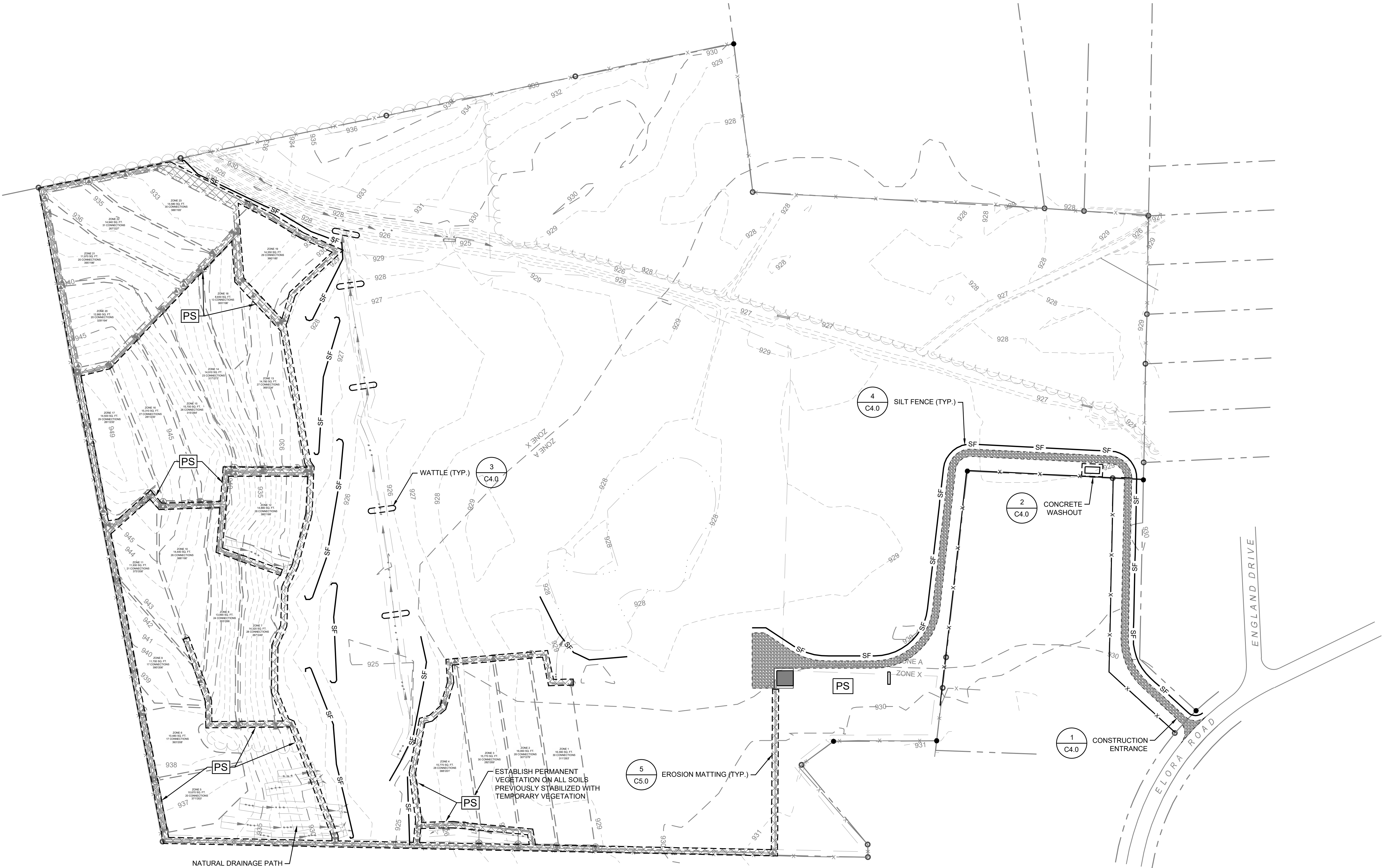
- 1. ESTABLISH PERMANENT VEGETATION IN AREAS THAT TEMPORARY VEGETATION HAS PREVIOUSLY BEEN ESTABLISHED.
- 2. REMOVE ALL TEMPORARY EPSC MEASURES ONCE PERMANENT VEGETATION HAS BEEN ESTABLISHED.

TS

TEMPORARY VEGETATION

PS

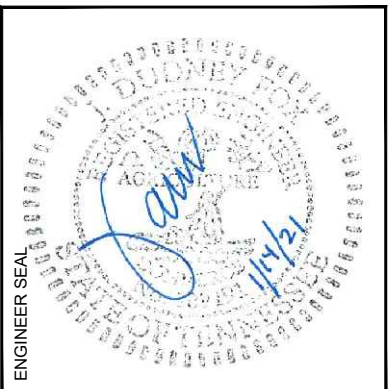
PERMANENT VEGETATION



FOXPE

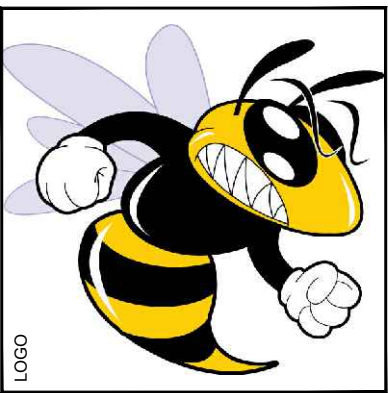
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PROJECT

TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
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3700-004



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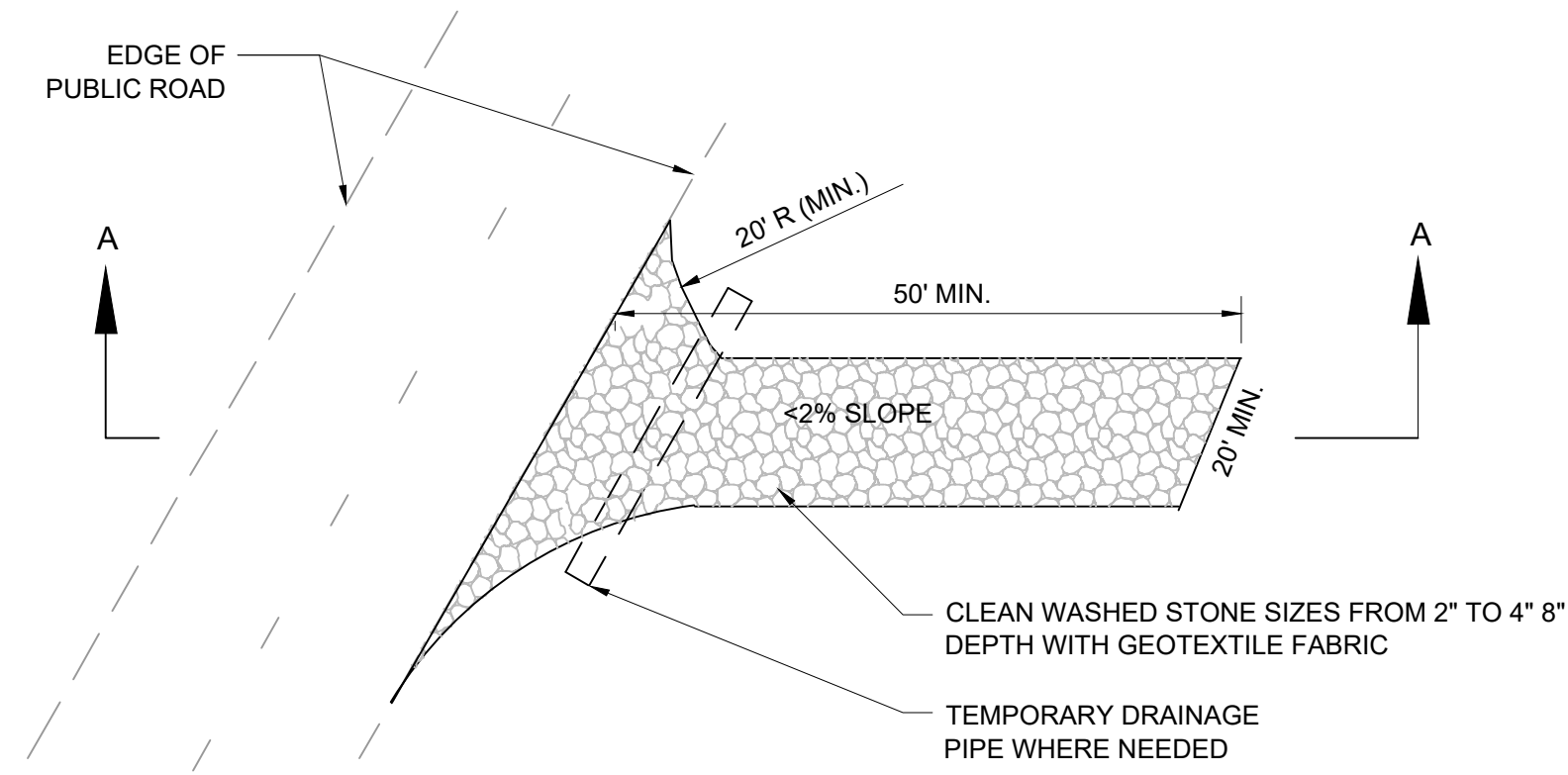
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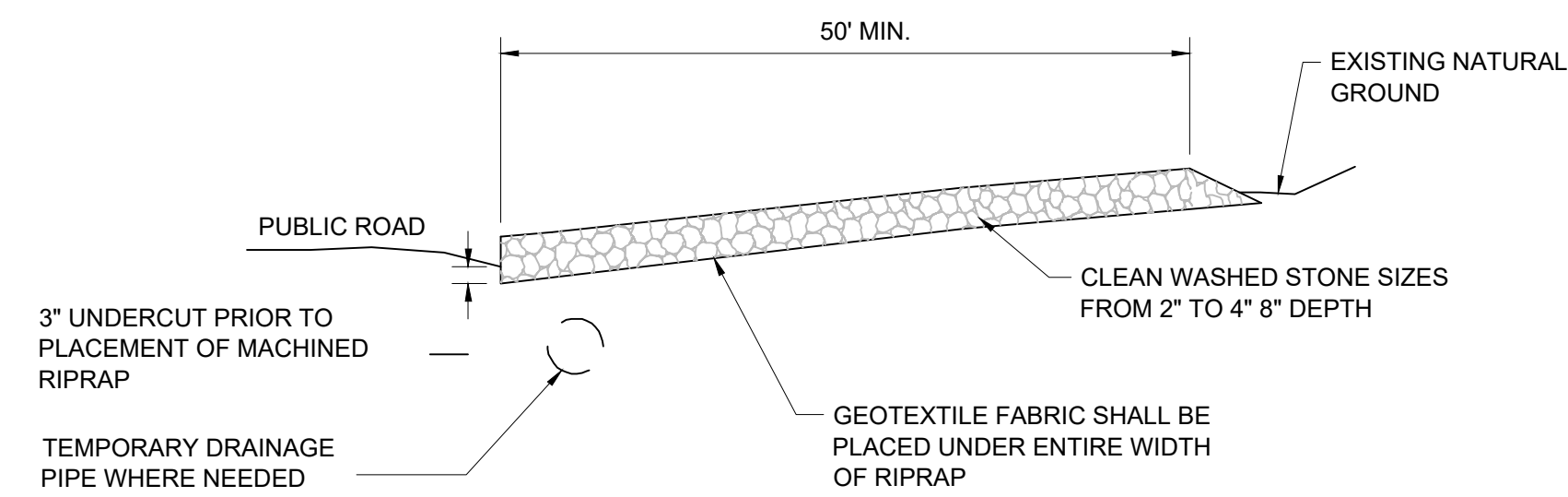
FINAL EROSION
PREVENTION &
SEDIMENT
CONTROL PLAN

DRAWING NO.

C3.1



PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD

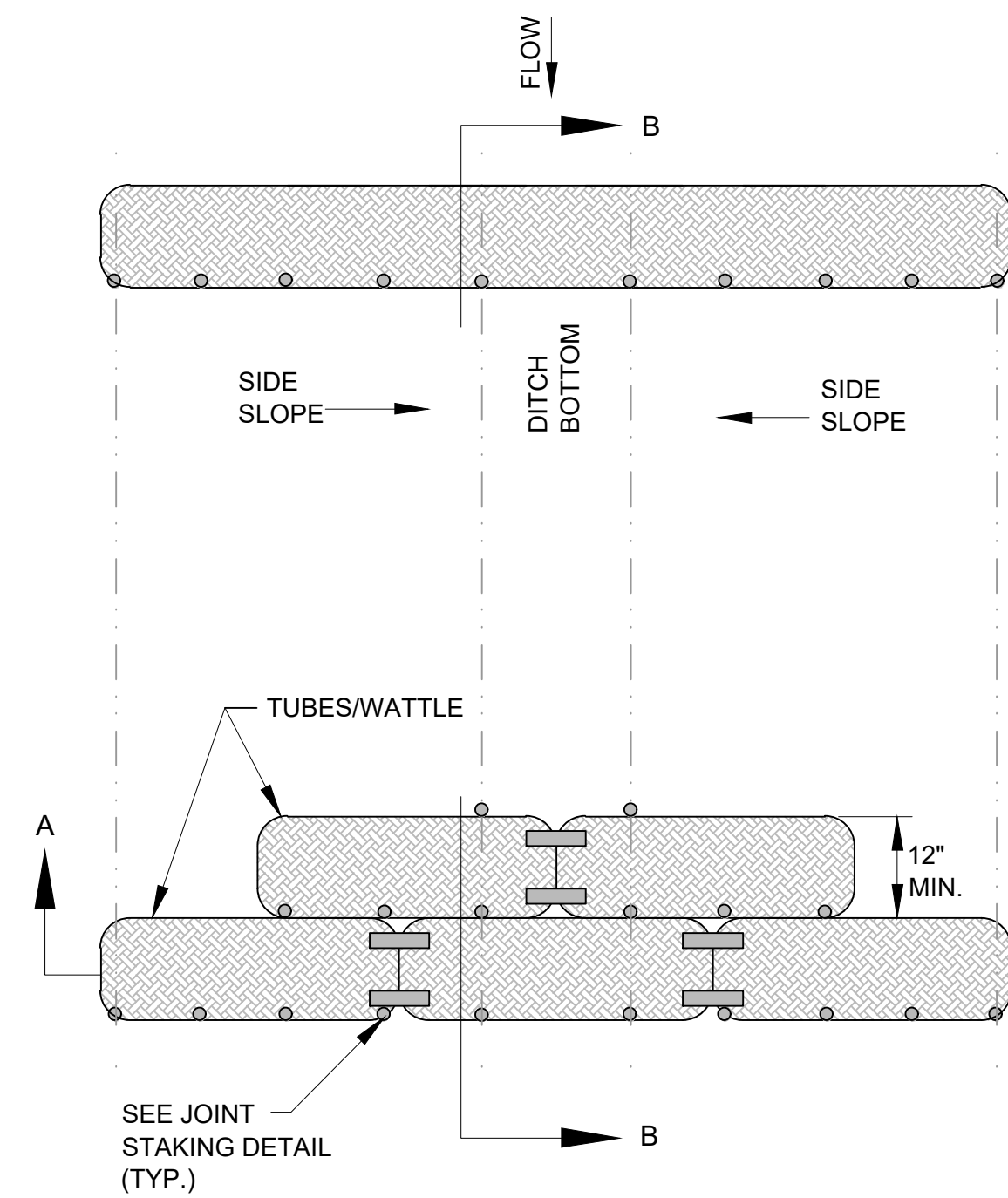


SECTION A-A

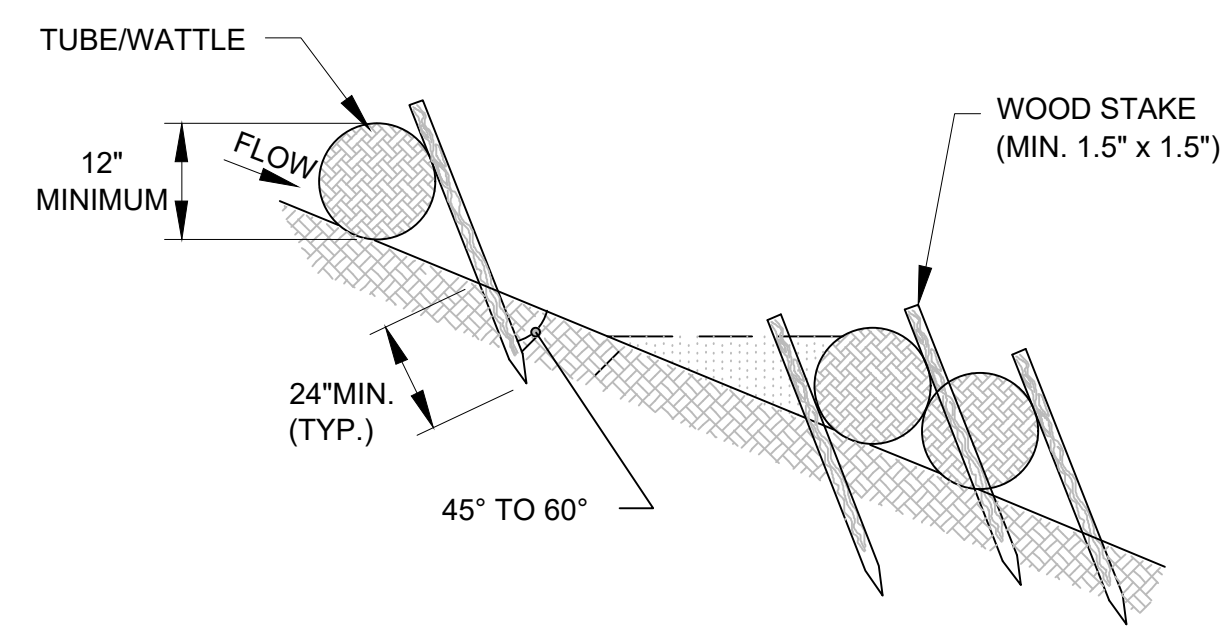
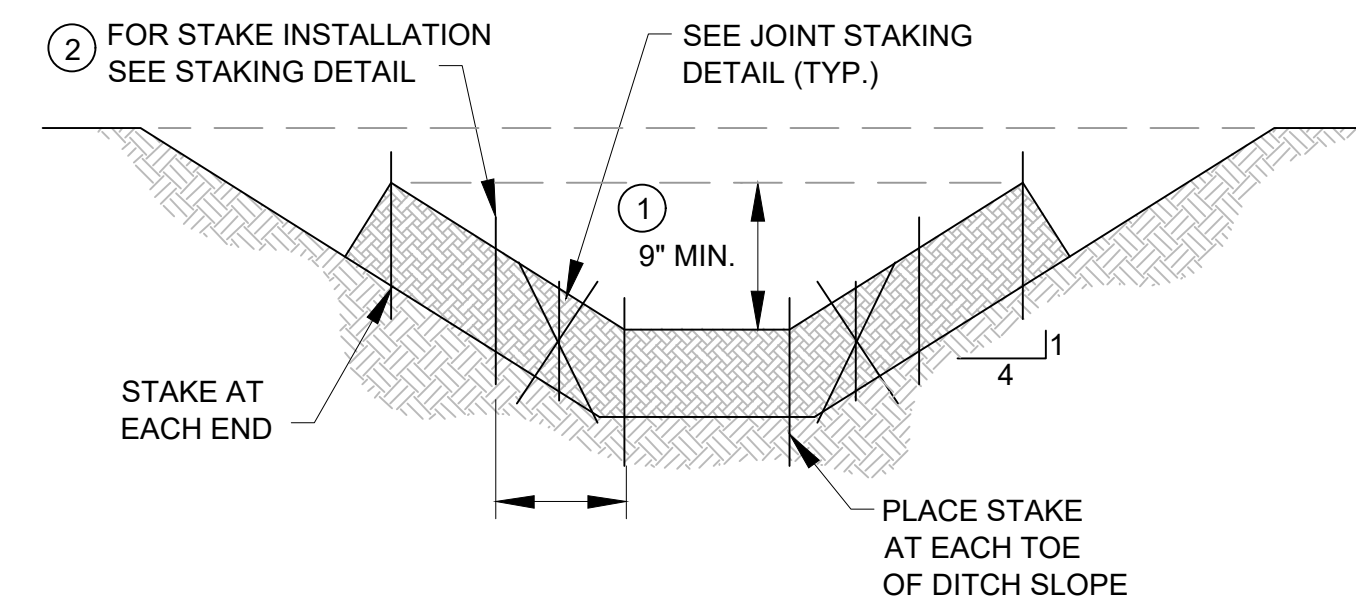
DETAIL

CONSTRUCTION ENTRANCE
NOT TO SCALE

1



PLAN VIEW FOR DITCH APPLICATION



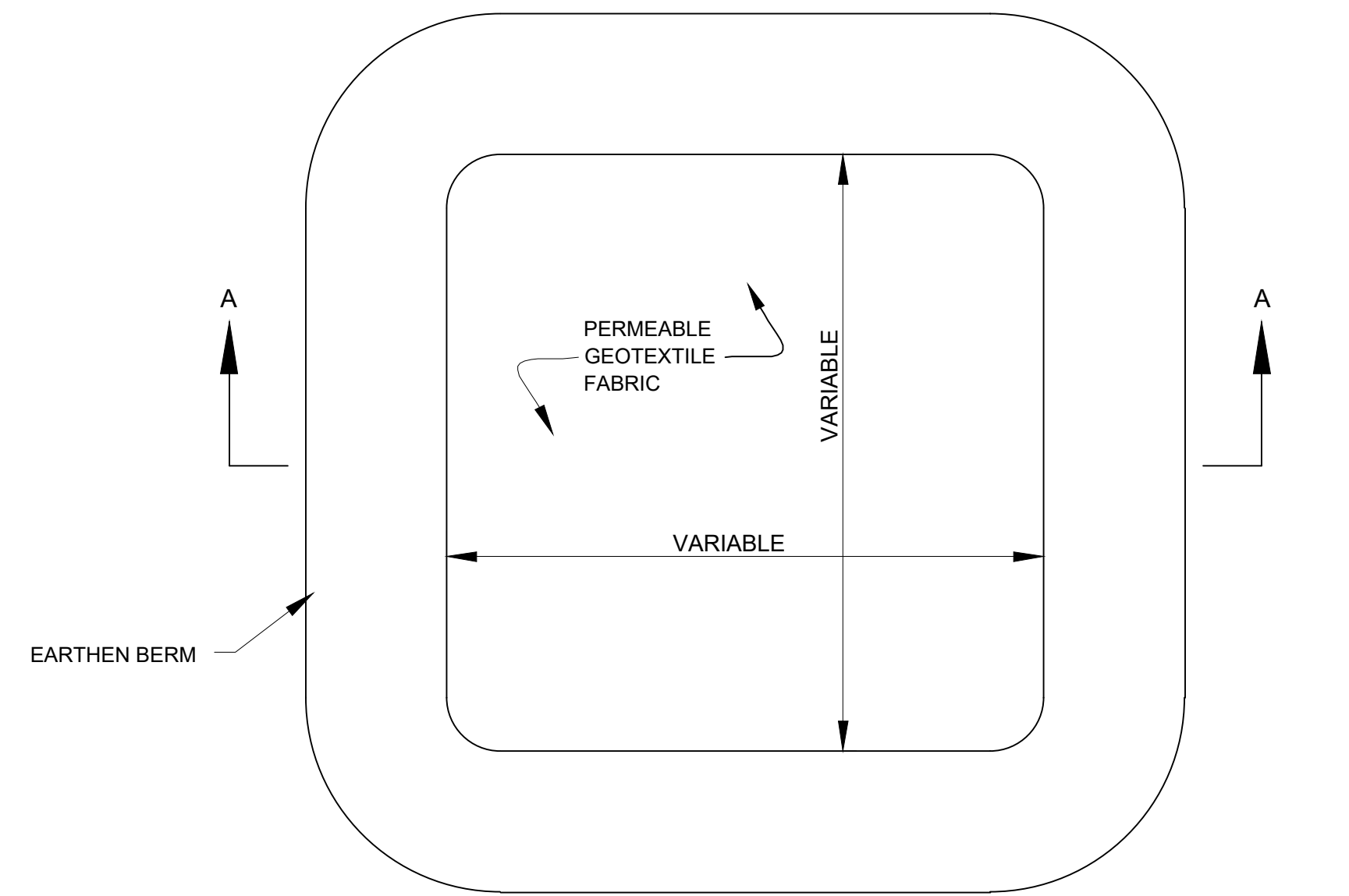
NOTES:

- THE DEPTH AND WIDTH OF THE WEIR SECTION OF THE WATTLE SHALL BE DESIGNED TO PASS THE 2yr/24hr OR 5yr/24hr STORM EVENT WITHOUT OVERTOPPING THE CHANNEL.
- STAKE PER MANUFACTURERS RECOMMENDATIONS

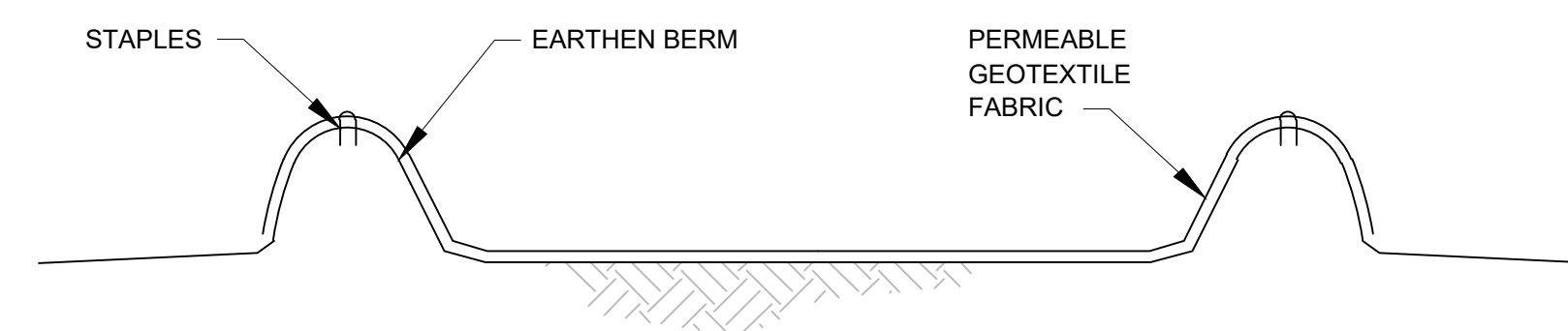
DETAIL

TUBES / WATTLE
NOT TO SCALE

3



PLAN VIEW



SECTION A-A

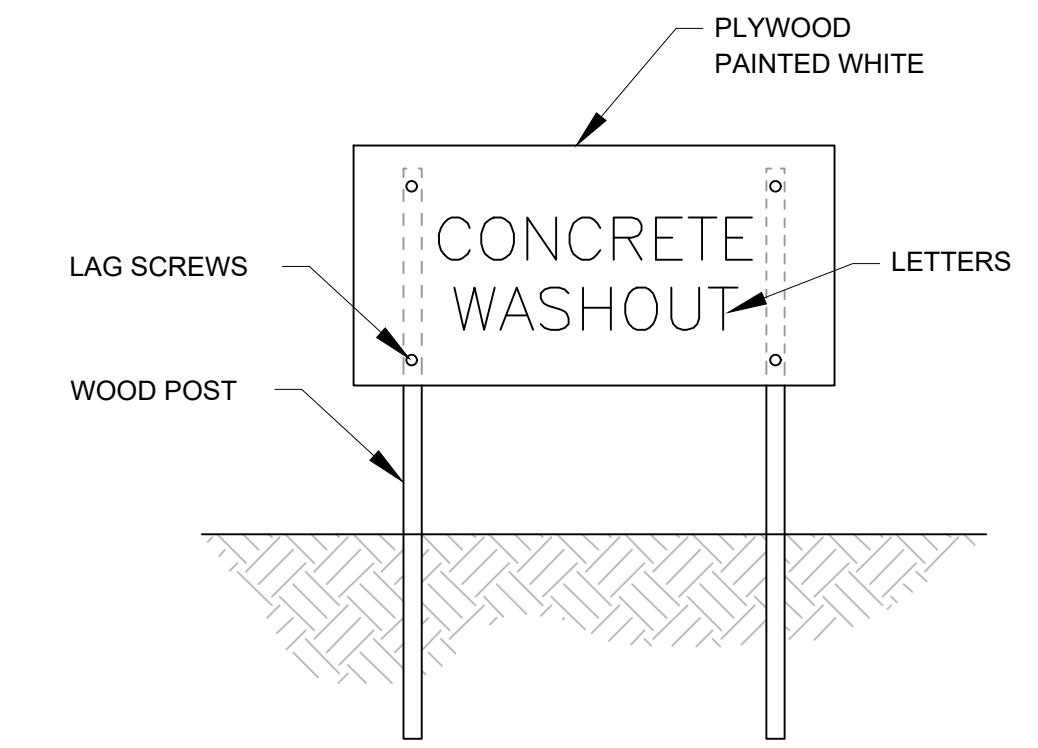
DETAIL

CONCRETE WASHOUT
NOT TO SCALE

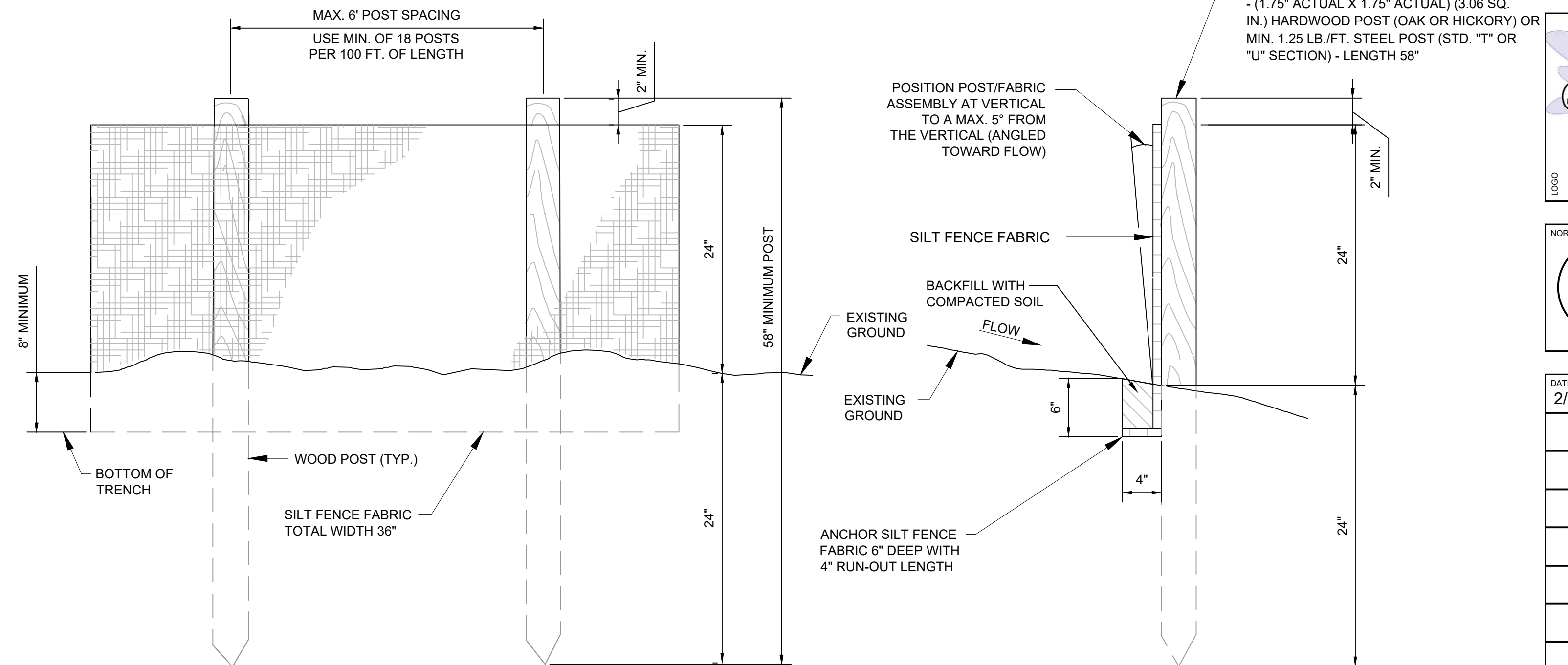
2

NOTES:

- ACTUAL LAYOUT DETERMINED IN THE FIELD.
- SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT. OF THE WASHOUT FACILITY.



CONCRETE WASHOUT SIGN
(OR EQUIVALENT)



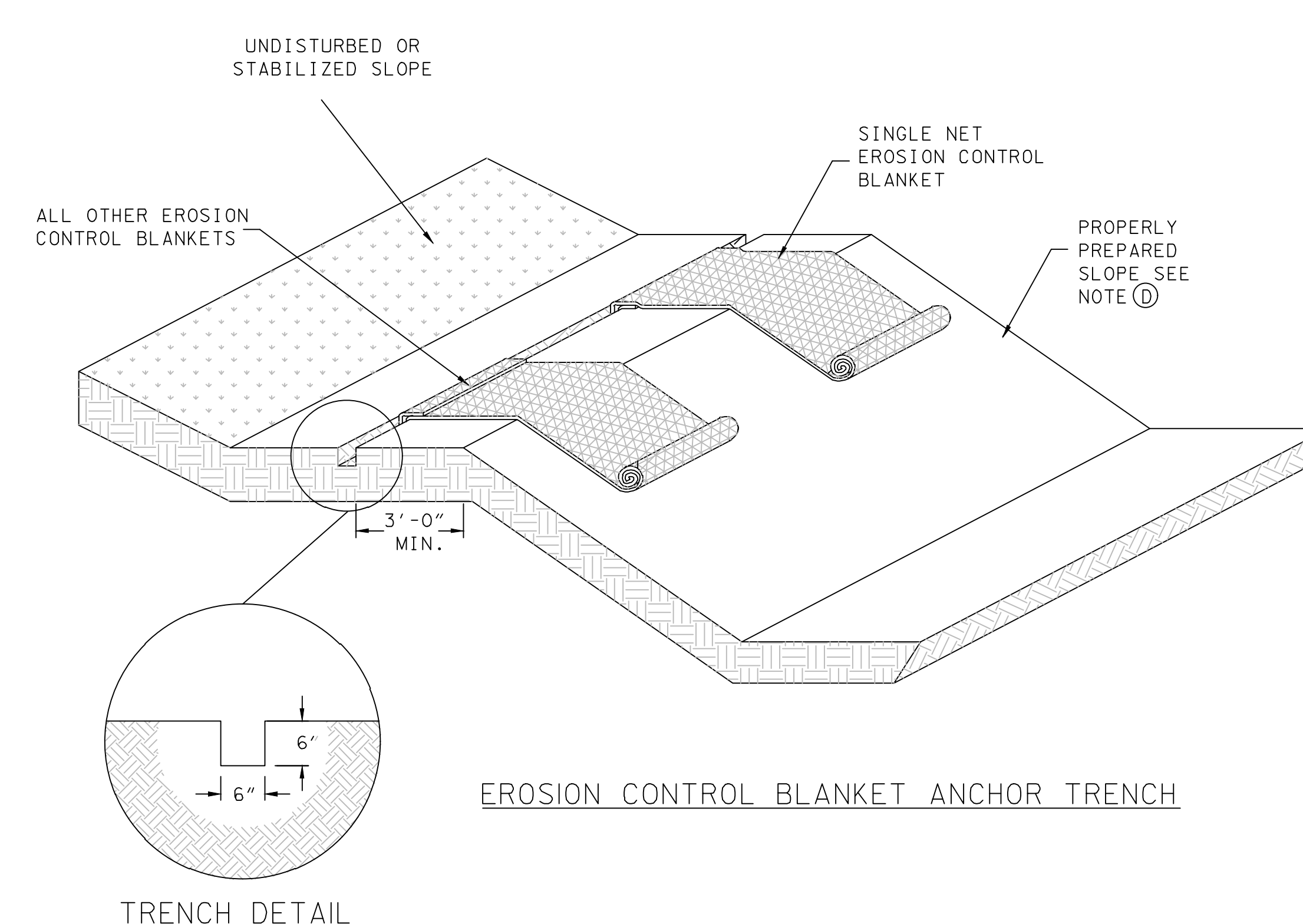
ELEVATION VIEW

DETAIL

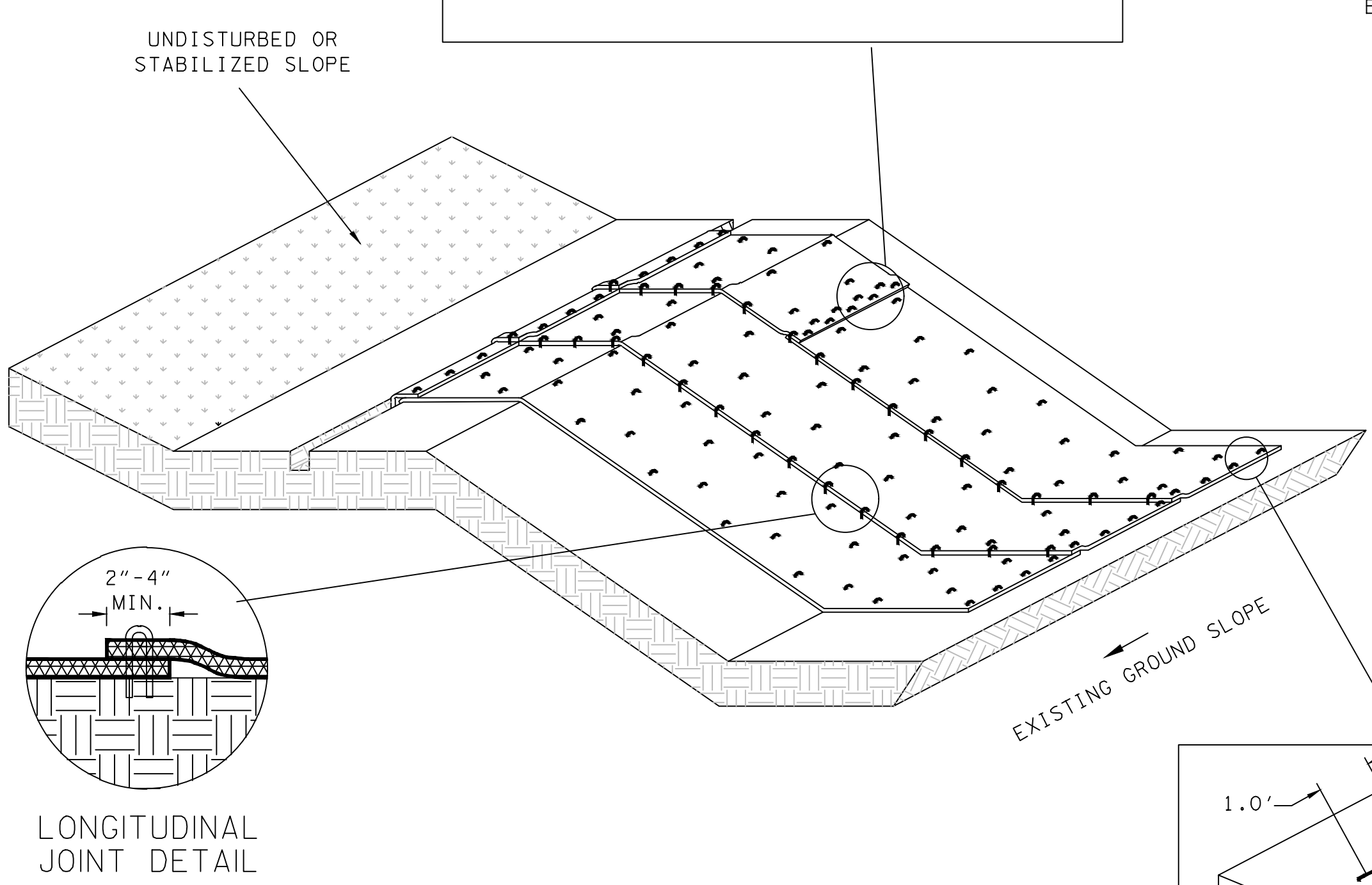
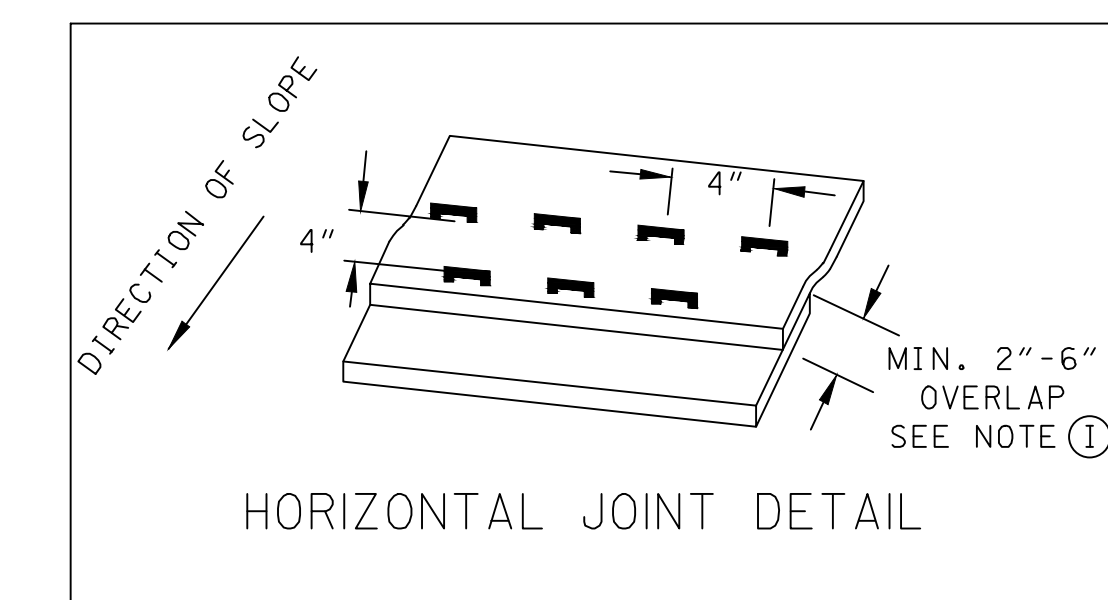
SILT FENCE
NOT TO SCALE

4

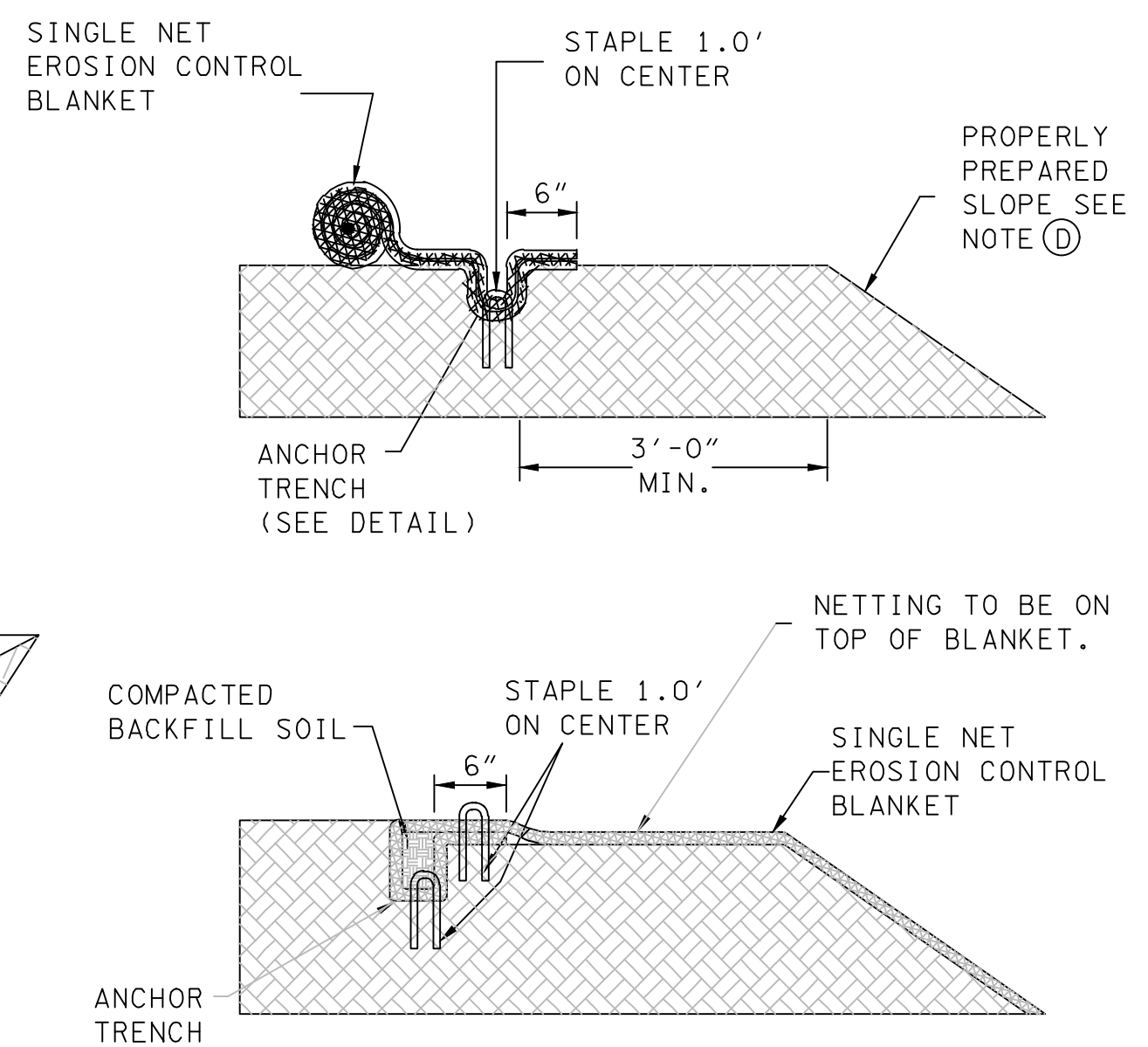
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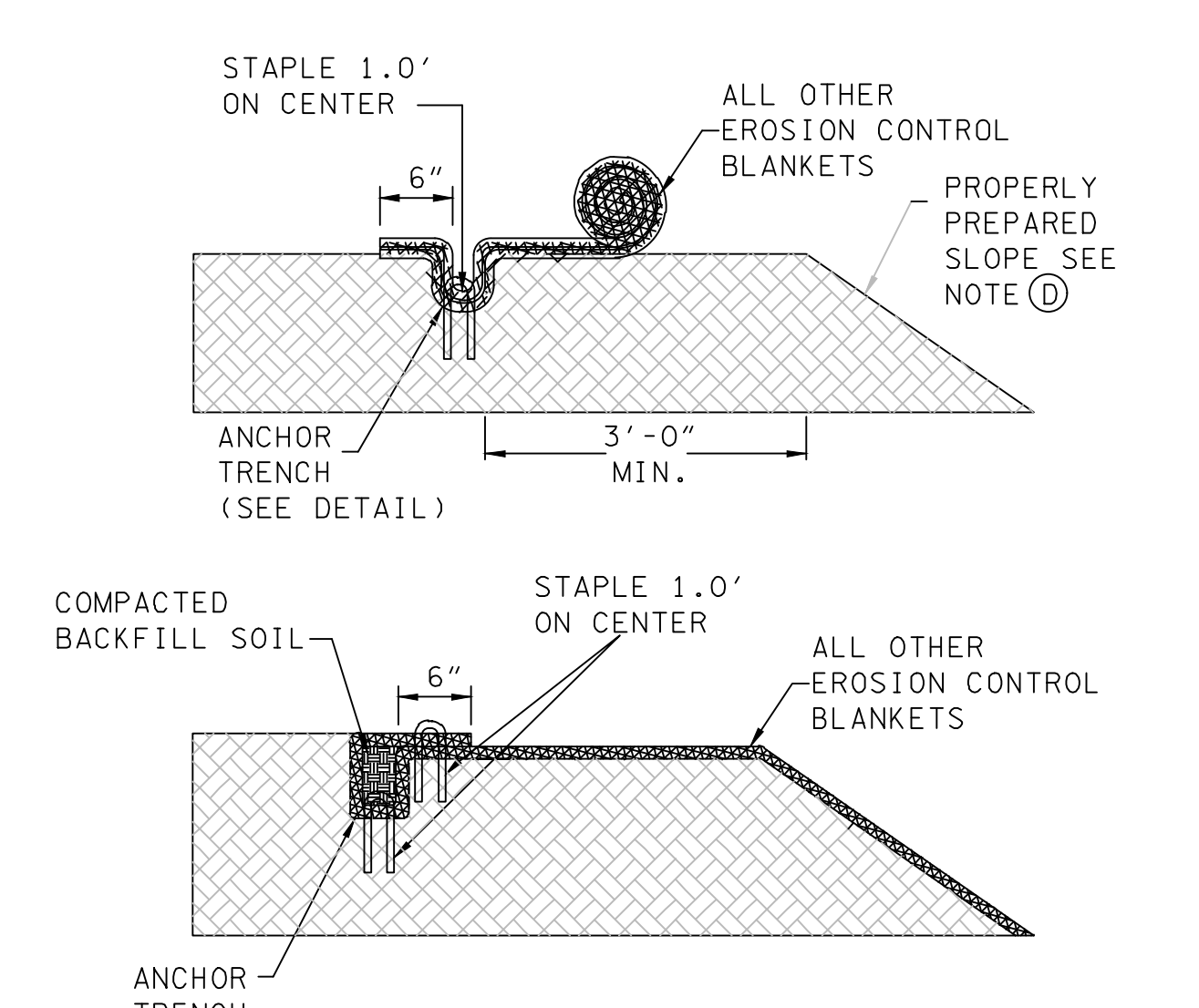
EROSION CONTROL BLANKET ANCHOR TRENCH



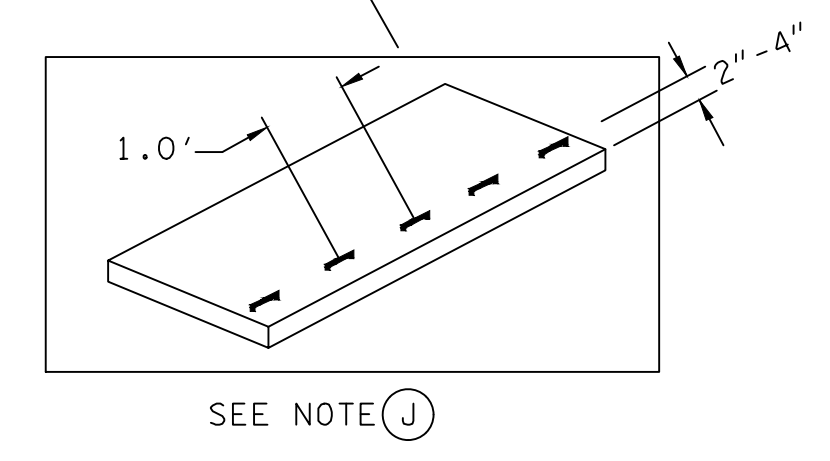
EROSION CONTROL PLAN LEGEND: [Pattern] EROSION CONTROL BLANKET



ANCHOR TRENCH DETAILS
SINGLE NET EROSION CONTROL BLANKETS



ANCHOR TRENCH DETAILS
ALL OTHER EROSION CONTROL BLANKETS



SEE NOTE J

EROSION CONTROL BLANKET SLOPE INSTALLATION GENERAL NOTES

- (A) EROSION CONTROL BLANKETS ARE INTENDED TO BE USED AS AN IMMEDIATE MULCH COVER FOR DISTURBED SLOPES THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED.
- (B) EROSION CONTROL BLANKETS MAY ALSO BE USED AS CHANNEL LINERS WHERE THE ANTICIPATED MAXIMUM SHEAR STRESS IS LOW. REFER TO EC-STR-36 FOR INSTALLATION DETAILS.
- (C) EROSION CONTROL BLANKETS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS. WHEN NOT AVAILABLE, INSTALL ACCORDING TO NOTES D THRU J.
- (D) STEP ONE: SITE PREPARATION
THE SITE SHOULD BE FINE GRADED TO A SMOOTH PROFILE AND RELATIVELY FREE FROM ALL WEEDS, CLODS, STONES, ROOTS, STICKS, RIVULETS, GULLIES, CRUSTING AND CAKING. FILL ANY VOIDS AND MAKE SURE THE SLOPE IS COMPACTED PROPERLY.
- (E) STEP TWO: SEEDING
SEEDING WITHOUT MULCH SHOULD BE APPLIED TO THE AREA TO BE VEGETATED.
- (F) STEP THREE: PREPARE THE ANCHOR TRENCH
AT THE TOP OF THE SLOPE EXCAVATE AN ANCHOR TRENCH 6 INCHES DEEP BY 6 INCHES WIDE. THE EROSION CONTROL BLANKET WILL BE ANCHORED INTO THE TRENCH BY STAPLES. ALLOW A MINIMUM OF 3 FEET FROM THE CREST OF THE SLOPE TO THE ANCHOR TRENCH.
- (G) STEP FOUR: SECURE THE EROSION CONTROL BLANKET IN THE ANCHOR TRENCH
BEGIN EROSION CONTROL BLANKET PLACEMENT 30 INCHES ABOVE THE ANCHOR TRENCH. RUN THE EROSION CONTROL BLANKET INTO THE ANCHOR TRENCH. ANCHOR THE EROSION CONTROL BLANKET WITH STAPLES ONE FOOT ON CENTER IN THE ANCHOR TRENCH. BE SURE TO DRIVE STAPLES OR STAKES FLUSH WITH THE SOIL SURFACE. BACKFILL THE ANCHOR TRENCH AND COMPACT THE SOIL. PLACE SEED OVER THE COMPACTED SOIL. COVER THE COMPACTED SOIL WITH THE REMAINING 12 INCHES OF THE TERMINAL END OF THE EROSION CONTROL BLANKET. STAPLE OR STAKE TERMINAL END DOWN SLOPE OF THE ANCHOR TRENCH ON ONE FOOT CENTERS.
- (H) STEP FIVE: EROSION CONTROL BLANKET DEPLOYMENT
STARTING AT THE CREST OF THE SLOPE, ROLL THE EROSION CONTROL BLANKET DOWN THE SLOPE IN A CONTROLLED MANNER. APPROXIMATELY EVERY 20-25 FEET PULL THE EROSION CONTROL BLANKET TO TAKE OUT ANY EXCESS SLACK. THE GOAL IS TO HAVE THE EROSION CONTROL BLANKET CONTOUR AND INITIATE CONTACT WITH THE SOIL.
- (I) STEP SIX: STAPLE OR STAKE THE EROSION CONTROL BLANKET
SECURE THE OVERLAP OR THE EDGES WITH STAPLES. THE TYPICAL INSTALLATION WILL REQUIRE ONE STAPLE PLACED AT THREE TO FIVE FEET INTERVALS ALONG THE VERTICAL LENGTH OF THE EROSION CONTROL BLANKET. STAPLES SHOULD BE STAGGERED EVERY 18 TO 24 INCHES HORIZONTALLY ACROSS THE EROSION CONTROL BLANKET. IF THE EROSION CONTROL BLANKET NEEDS TO BE SPLICED IN THE MIDDLE OF A SLOPE BE SURE THE EROSION CONTROL BLANKET IS "SHINGLED" WITH UP-SLOPE EROSION CONTROL BLANKET OVERLAPPING THE DOWN-SLOPE EROSION CONTROL BLANKET. THERE SHOULD BE A MINIMUM OF 4-INCHES OF OVERLAP IN A SPLICE. USE A STAPLE CHECK SLOT TO SECURE THE OVERLAP. A STAPLE CHECK SLOT IS MADE BY PLACING A ROW OF STAPLES 4-INCHES ON CENTER AND THEN PLACING A SECOND ROW OF STAPLES 4-INCHES ON CENTER, STAGGERED FROM THE FIRST ROW.
- (J) STEP SEVEN: SECURING THE EROSION CONTROL BLANKET AT THE TOE OF SLOPE
ROLL THE EROSION CONTROL BLANKET 24-INCHES PAST THE TOE OF THE SLOPE. STAPLE OR STAKE TERMINAL END OF THE EROSION CONTROL BLANKET ON ONE FOOT CENTERS.
- (K) ONLY EROSION CONTROL BLANKETS LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED.
- (L) EROSION CONTROL BLANKETS FOR SLOPE INSTALLATION SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:
- | | |
|-----------|--|
| 801-02 | SEEDING (WITHOUT MULCH) PER UNIT |
| 801-02.01 | CROWN VETCH MIXTURE (WITHOUT MULCH) PER UNIT |
| 801-02.08 | TEMPORARY SEEDING (WITHOUT MULCH) PER UNIT |
| 805-12.01 | EROSION CONTROL BLANKET (TYPE I) PER SQUARE YARD |
| 805-12.02 | EROSION CONTROL BLANKET (TYPE II) PER SQUARE YARD |
| 805-12.03 | EROSION CONTROL BLANKET (TYPE III) PER SQUARE YARD |
| 805-12.04 | EROSION CONTROL BLANKET (TYPE IV) PER SQUARE YARD |

DETAIL

EROSION CONTROL BLANKET
NOT TO SCALE

5

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CONSTRUCTION NOTES

CONSTRUCTION ENTRANCE/EXIT

- EXCAVATE AREA TO A DEPTH OF AT LEAST 3 INCHES AND CLEAR THE AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
- CONSTRUCTION EXITS SHOULD BE AT A MINIMUM OF 50 FEET IN LENGTH BY 20 FT IN WIDTH.
- INSTALL A GEOTEXTILE UNDER LINER ACROSS THE FULL WIDTH AND DEPTH OF THE CONSTRUCTION EXIT TO SEPARATE THE ROCK FROM THE UNDERLYING SOIL. FABRIC SHOULD MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GEOTEXTILES, AASHTO DESIGNATED M-288, EROSION CONTROL.
- PROVIDE CLEAN, WASHED STONE TO A DEPTH OF 8 INCHES. STONE SHOULD VARY IN SIZE FROM 2 TO 4 INCHES. ROCK MUST BE CLEAN WITH NO FINES. CRUSHER RUN AND ROAD BASE ARE NOT ACCEPTABLE MATERIALS, AS THE FINES CAN BE TRACKED OUT ONTO THE ROAD.
- A TURNING RADIUS OF 20 FEET SHOULD BE PROVIDED ON EACH SIDE OF THE ENTRANCE WHERE IT INTERSECTS WITH THE PUBLIC ROADWAY.
- THE EXIT MUST BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MATERIAL ONTO PUBLIC RIGHTS-OF WAY OR INTO STORM DRAIN SYSTEMS.

SILT FENCE

- ENSURE THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE GROUND SURFACE.
- WHEN JOINTS IN FENCE ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH A 4 FOOT MINIMUM OVERLAP TO NEXT POST.
- CONNECT THE FENCE FABRIC TO THE POSTS WITH ZIP TIES HAVING A MINIMUM 50-POUND TENSILE STRENGTH.
- INSTALL SILT FENCE IN A TRENCH APPROXIMATELY 4" WIDE AND 8" DEEP ALONG THE PROPOSED LINE OF POSTS AND UP SLOPE FROM THE BARRIER.
- PLACE 12" OF FABRIC ALONG THE BOTTOM AND SIDE OF TRENCH.
- BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT.
- DO NOT ATTACH SILT FENCE FABRIC TO EXISTING TREES.
- SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOUR, NEVER UP OR DOWN A SLOPE.

SEDIMENT LOGS

- REMOVE ALL ROCKS, COLDS, VEGETATION OR OTHER OBSTRUCTIONS SO INSTALLED LOGS HAVE DIRECT CONTACT WITH THE UNDERLYING SOIL SURFACE.
- INSTALL LOGS BY LAYING THEM FLAT ON THE GROUND AND INSTALL STAKES AT SPACING PER THE MANUFACTURER'S RECOMMENDATIONS.
- STAKES SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE LOGS.
- INSTALL LOGS SO NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE LOG.
- KEEP LOGS IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- THE END OF THE LOG MUST EXTEND UP THE DITCH SIDE SLOPES TO THE TOP OF THE DITCH.

OUTLET PROTECTION

- A GEOTEXTILE LINER SHALL BE USED TO PREVENT SOIL MOVEMENT THROUGH THE OPENING IN THE RIPRAP.
- THE GEOTEXTILE MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FOOT.
- RIPRAP MAY BE PLACED BY EQUIPMENT, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGING THE GEOTEXTILE.
- THE MINIMUM THICKNESS OF RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
- THE OUTLET STRUCTURE MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
- CONSTRUCT THE APRON ON ZERO GRADE. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL AND PREFERABLY, STRAIGHT THROUGHOUT ITS LENGTH.
- IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

SURFACE TRACKING

- SURFACE TRACKING CONSISTS OF ROUGHENING A BARE SOIL SURFACE WITH HORIZONTAL GROOVES RUNNING ACROSS THE SLOPE, OR TRACKING WITH CONSTRUCTION EQUIPMENT.
- ALL CONSTRUCTION SLOPED REQUIRE SURFACE ROUGHENING TO FACILITATE STABILIZATION WITH VEGETATION.
- SLOPES TO BE COVERED WITH ROLLED EROSION CONTROL PRODUCTS NEED NOT BE ROUGHENED.
- OPERATE TRACKED MACHINERY UP AND DOWN SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL.
- DO NOT BACK-BLADE DURING THE FINAL GRADING OPERATION.
- IMMEDIATELY SEED AND MULCH ROUGHED AREAS TO OBTAIN OPTIMUM SEED GERMINATION AND GROWTH.

TEMPORARY VEGETATION

- TEMPORARY SEEDING CONTROLS RUNOFF AND EROSION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.
- COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES.
- IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.
- PROPER SEEDBED PREPARATION IS ESSENTIAL FO SUCCESSFUL PLANT ESTABLISHMENT.
- LIME SHALL BE APPLIED AT THE RATE OF 1 TO 1 ½ TONS/ACRE ON COARSE TEXTURED SOILS AND 2-3 TONS/ACRE ON FINE TEXTURED SOILS. APPLY LIME UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER DO NOT NEED TO BE LIMED.
- APPLY A 10-10-10 GRADE FERTILIZER AT 700-1000 LB./ACRE AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL.
- IF RAINFALL CAUSED THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS.
- SELECT A NON-INVASIVE GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR.
- SEED SHALL BE APPLIED UNIFORMLY BY CYCLONE SEEDER, DRILL, CULTIPACKER, OR HYDRAULIC SEEDER.
- APPROXIMATE DEPTH OF PLANTING IS 10 TIMES THE SEED DIAMETER.
- SOIL SHALL BE RAKED LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND.
- APPLY MULCH AT A RATE OF 4,000 LB./ACRE.
- DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL ENSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE AS NEEDED TO PROMOTE GROWTH.

MAINTENANCE NOTES

CONSTRUCTION ENTRANCE/EXIT

- MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
- PERIODICALLY TOP DRESS WITH 2-INCH STONE AS NEEDED.
- AFTER EACH RAINFALL, INSPECT THE ENTRANCE FOR BUILDUP OF SEDIMENT AND CLEAN AS NECESSARY.
- IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

SILT FENCE

- INSPECT SILT FENCE AT LEAST ONCE PER WEEK AND AFTER EACH RAINFALL EVENT.
- MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
- IF THE FABRIC OF THE SILT FENCE IS DAMAGED AND NOT WORKING AS INTENDED, REPLACE THE SECTION OF SILT FENCE IMMEDIATELY.
- REMOVE SEDIMENT THAT HAS COLLECTED IN FRONT OF THE SILT FENCE ONCE IT HAS ACCUMULATED TO ½ THE ORIGINAL HEIGHT OF THE BARRIER.
- ALL SEDIMENT ACCUMULATED AT THE FENCE SHOULD BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE FENCE IS REMOVED.
- REPAIR SAGGING SILT FENCE TO PREVENT FAILURE OR OVERTOPPING.
- MONITOR THE TOE FOR EVIDENCE OF EROSION ALONG THE TOE. INSTALL J-HOOKS WHEREVER RUNOFF FLOWS ALONG THE TOE OF THE FENCING TO PREVENT UNDERMINING.
- ONCE THE DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE.

SEDIMENT LOGS

- INSPECT LOGS AND TUBES AFTER INSTALLATION FOR GAPS UNDER THE LOGS AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF LOGS. ENSURE STAKES ARE ON THE DOWNSTREAM SIDE.
- REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR LOGS.
- REMOVE ALL SEDIMENT DEPOSITS WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED LOG.
- REMOVE AND/OR REPLACE INSTALLED SEDIMENT LOGS AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS.
- WHEN THE FILL MATERIALS DEGRADE AND SETTLE, THE LOG SHOULD BE REPLACED.
- AT THE END OF THE PROJECT, BIODEGRADABLE LOGS CAN BE SPLIT OPEN, THE NETTING MATERIAL AND STAKES REMOVE, AND THE BIODEGRADABLE MATERIAL LEFT IN PLACE TO AID STABILIZATION.

OUTLET PROTECTION RIP RAP APRON

- INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENTS.
- DURING INSPECTION, MAKE OBSERVATIONS OF ANY EROSION AROUND OR BELOW THE RIP RAP OR IF STONES HAVE BEEN DISLODGED.
- IMMEDIATELY MAKE ANY REPAIRS NEEDED.

SURFACE TRACKING

- PERIODICALLY CHECK THE SEEDED SLOPES FOR RILLS AND WASHES.
- FILL THESE AREAS SLIGHTLY ABOVE THE ORIGINAL GRADE, THEN RESEED AND MULCH AS SOON AS POSSIBLE.
- IF SURFACE TRACKING IS WASHED AWAY IN A HEAVY STORM, THE SURFACE WILL HAVE TO BE RE-TRACKED AND NEED SEED LAID AND MULCHED APPROPRIATELY.

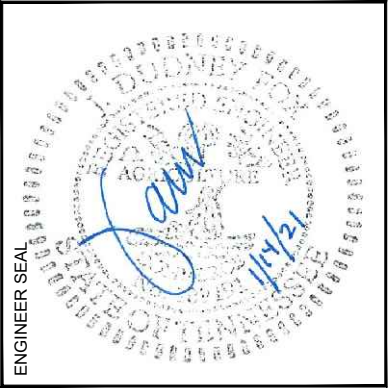
PERMANENT VEGETATION

- RESEED AND MULCH AREAS WHERE SEEDLING EMERGENCE IS POOR OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE.
- RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE.
- DO NOT MOW TEMPORARY VEGETATED AREAS.

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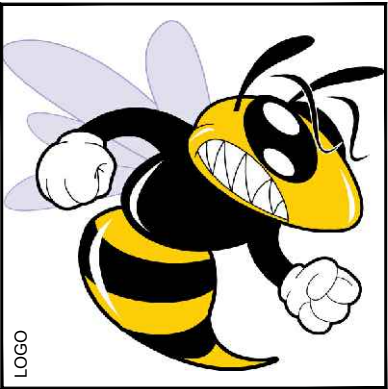


PROJECT

TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT AND DRIP DISPERSAL FACILITIES

3700-004



NORTH

DRAWN BY

CAJ

APPROVED BY

JDF

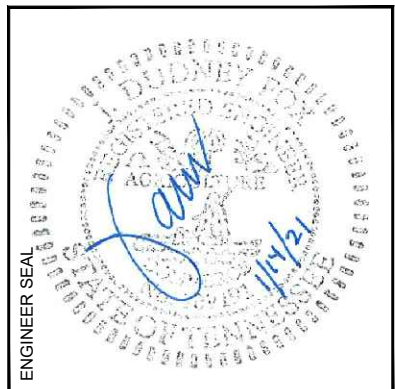
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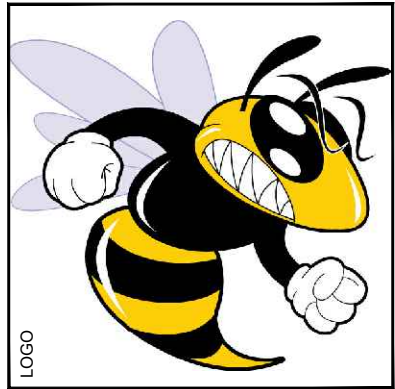
EROSION PREVENTION & SEDIMENT CONTROL NOTES

DRAWING NO.

C5.1



TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004



NORTH
DRAWN BY
CAJ
APPROVED BY
JDF

DATE	ISSUE
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TITLE
AQUAPOINT
SITE LAYOUT &
PIPING PLAN

DRAWING NO.

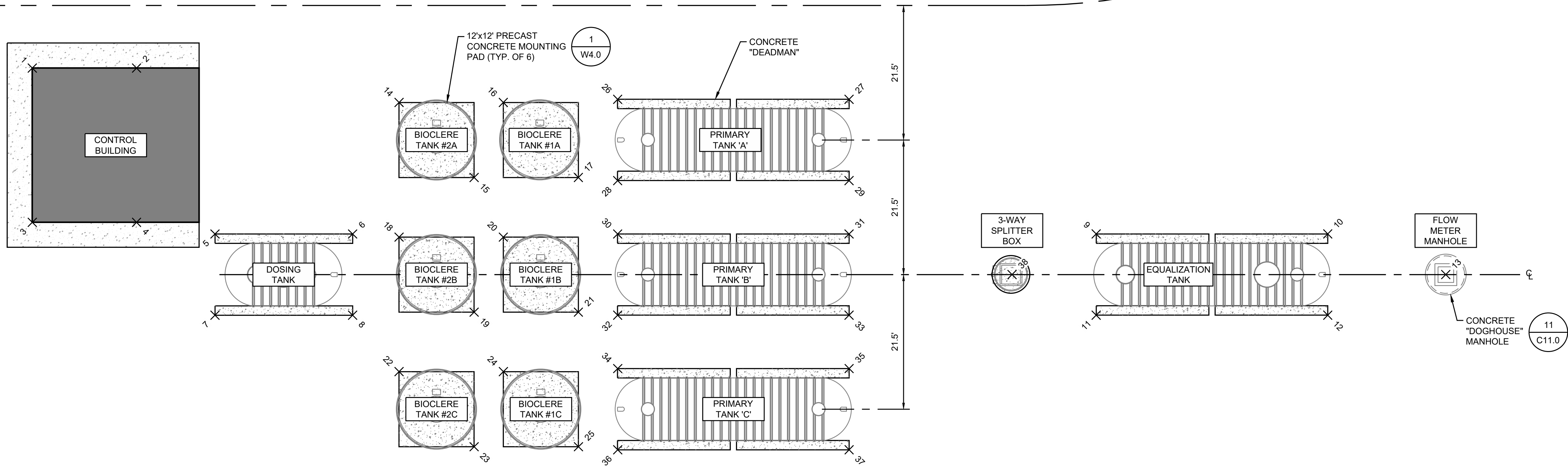
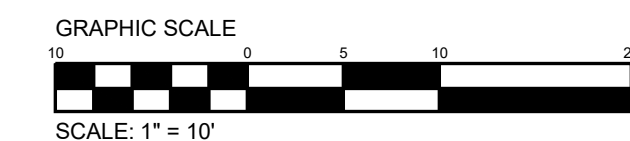
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STRUCTURE LOCATION TABLE		
POINT	NORTHING	EASTING
1	259143.89	1885818.30
2	259143.89	1885834.97
3	259119.22	1885818.30
4	259119.22	1885834.97
5	259117.36	1885847.51
6	259117.36	1885869.51
7	259104.37	1885847.51
8	259104.37	1885869.51
9	259117.37	1885988.34
10	259117.37	1886025.36
11	259104.37	1885988.34
12	259104.37	1886025.36
13	259110.87	1886044.22
14	259138.39	1885876.92
15	259126.39	1885888.92
16	259138.39	1885893.59
17	259126.39	1885905.59
18	259116.86	1885876.92
19	259104.86	1885888.92
20	259116.86	1885893.59
21	259104.86	1885905.59
22	259095.34	1885876.93
23	259083.34	1885888.93
24	259095.34	1885893.60
25	259083.34	1885905.60
26	259138.88	1885911.87
27	259138.88	1885948.86
28	259125.89	1885911.87
29	259125.89	1885948.86
30	259117.36	1885911.87
31	259117.36	1885948.86
32	259104.37	1885911.87
33	259104.37	1885948.86
34	259095.84	1885911.88
35	259095.84	1885948.86
36	259082.85	1885911.88
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NOTE:
COORDINATES BASED ON NAD83,
TENNESSEE STATE PLANE.

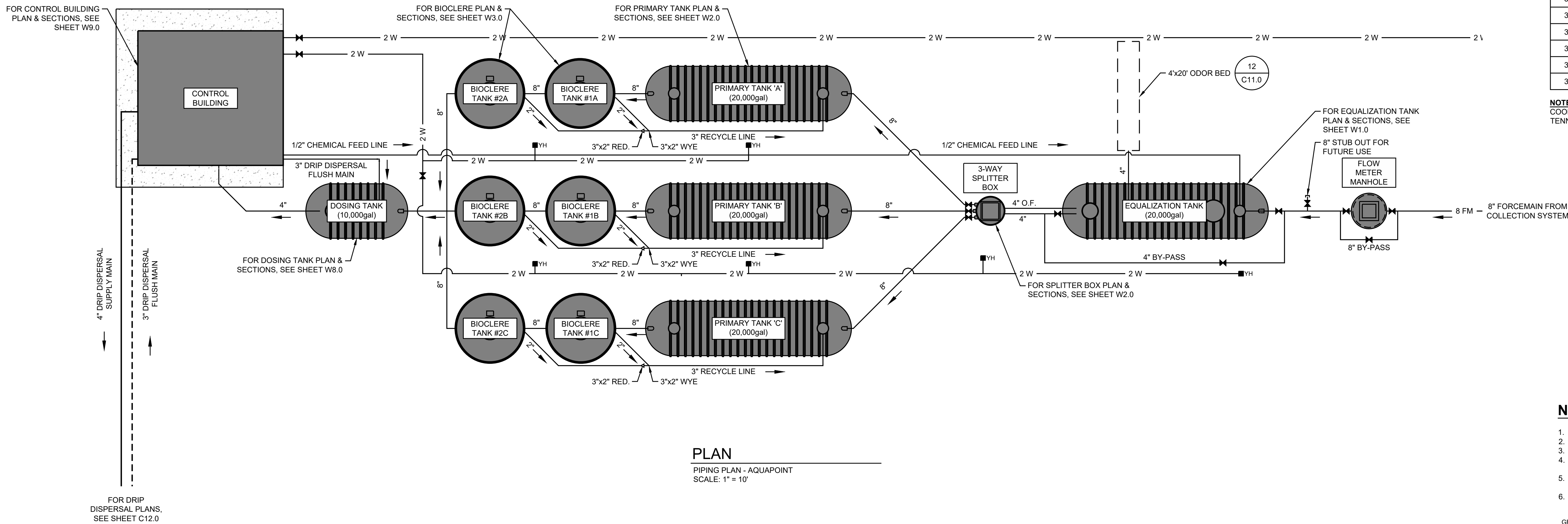
NOTES

- 8" PIPING TO BE SDR 21 ASTM D2241 PVC
- 4" PIPING TO BE SCH 40 PVC (SUPPLY MAIN)
- 2" PIPING TO BE SCH 40 PVC (FLUSH MAIN)
- VALVES 4" AND LARGER TO BE AWWA C504 GATE VALVES
- VALVES SMALLER THAN 4" TO BE PVC BALL VALVES
- USE SOCKET WELD PVC FITTINGS IN ALL PIPING, UNLESS NOTED OTHERWISE.



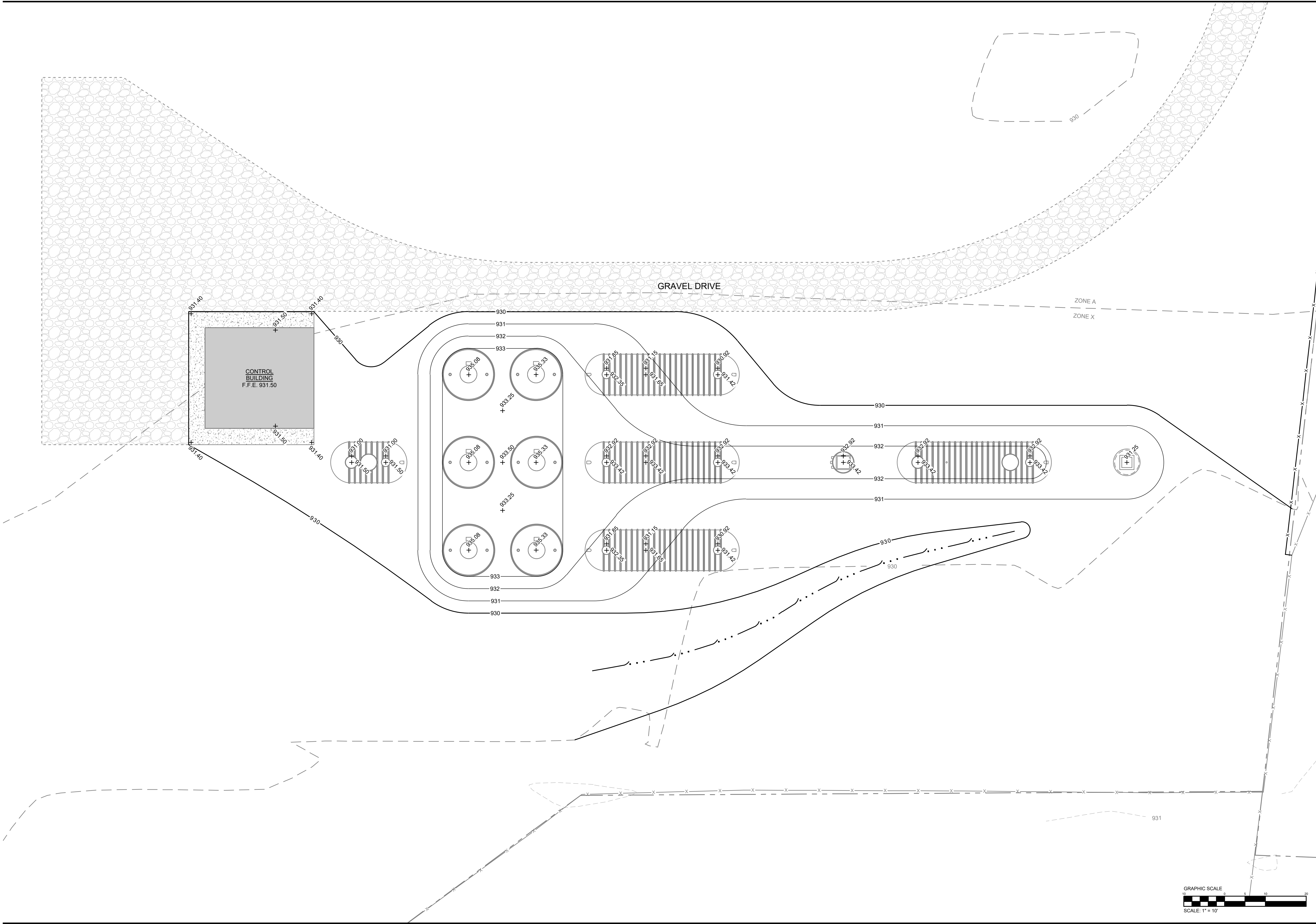
PLAN

SITE LAYOUT - AQUAPOINT
SCALE: 1" = 10'



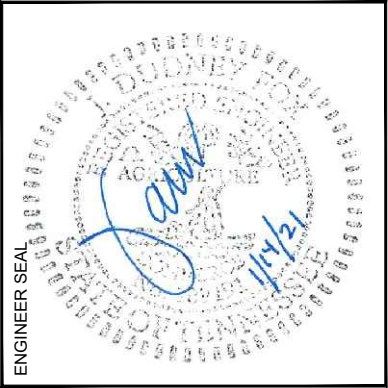
PLAN

PIPING PLAN - AQUAPOINT
SCALE: 1" = 10'



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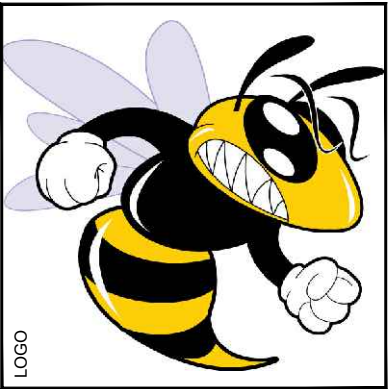


PROJECT

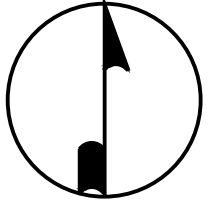
TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES

3700-004



NORTH



DRAWN BY

CAJ

APPROVED BY

JDF

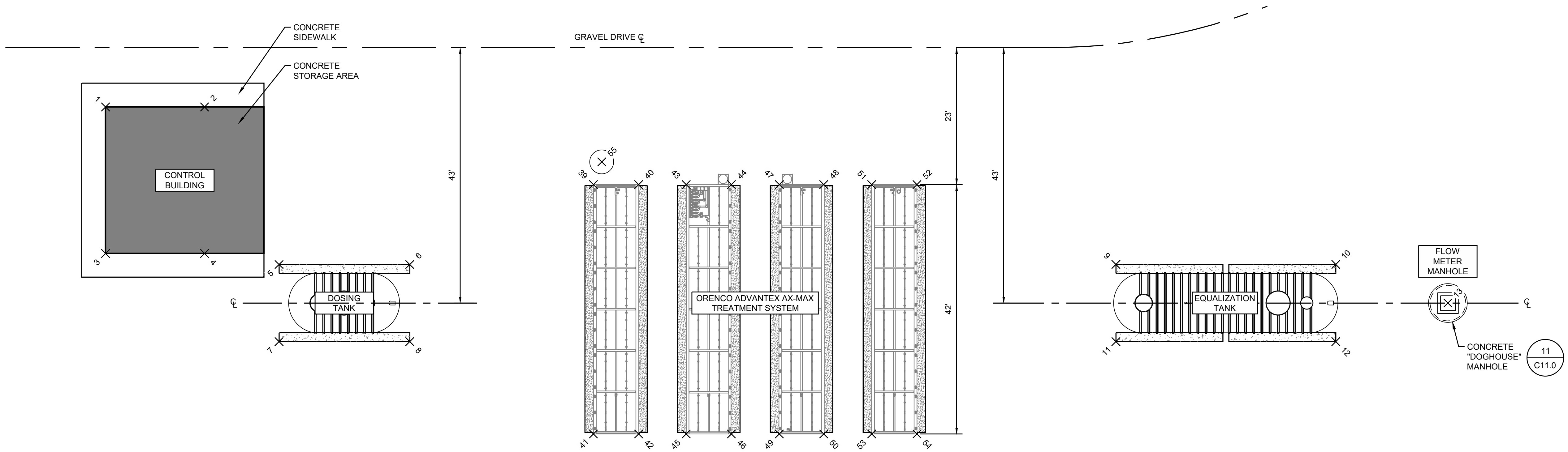
DATE	ISSUE
2/26/21	IFB

TITLE

AQUAPOINT
GRADING PLAN

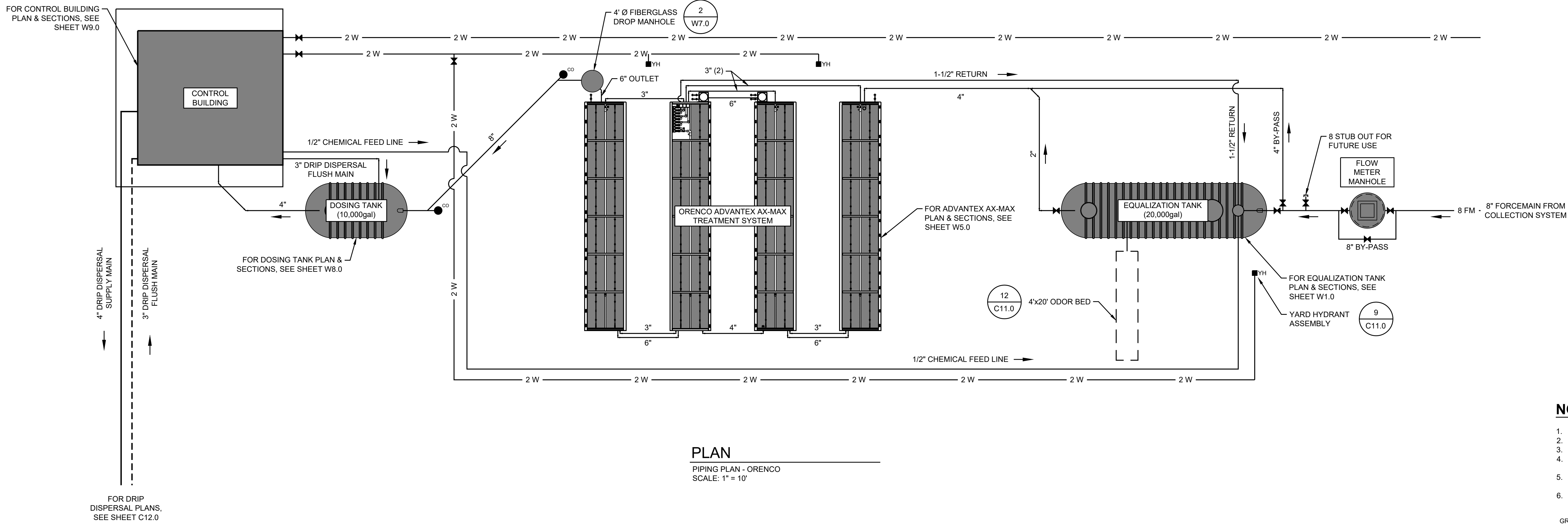
DRAWING NO.

C7.0



PLAN

SITE LAYOUT - ORENCO
SCALE: 1" = 10'



PLAN

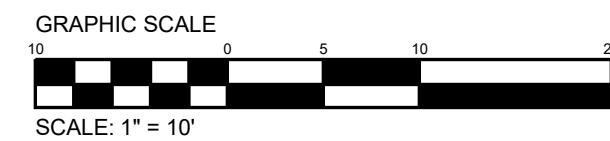
PIPING PLAN - ORENCO
SCALE: 1" = 10'

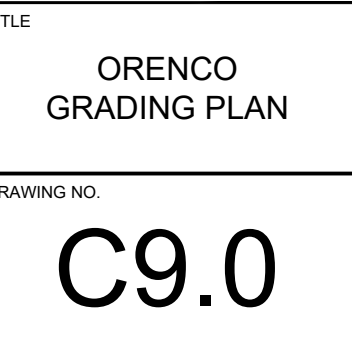
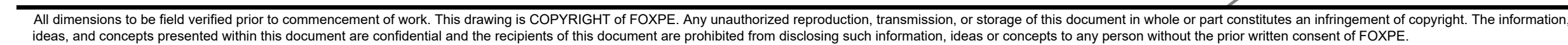
STRUCTURE LOCATION TABLE		
POINT	NORTHING	EASTING
1	259143.89	1885818.30
2	259143.89	1885834.97
3	259119.22	1885818.30
4	259119.22	1885834.97
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7	259104.37	1885847.51
8	259104.37	1885869.51
9	259117.37	1885988.34
10	259117.37	1886025.36
11	259104.37	1885988.34
12	259104.37	1886025.36
13	259110.87	1886044.22
39	259130.81	1885900.41
40	259130.81	1885908.03
41	259088.81	1885900.41
42	259088.81	1885908.03
43	259130.81	1885916.02
44	259130.81	1885923.64
45	259088.81	1885916.02
46	259088.81	1885923.64
47	259130.81	1885931.70
48	259130.81	1885939.18
49	259088.81	1885931.70
50	259088.81	1885939.18
51	259130.81	1885947.24
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53	259088.81	1885947.24
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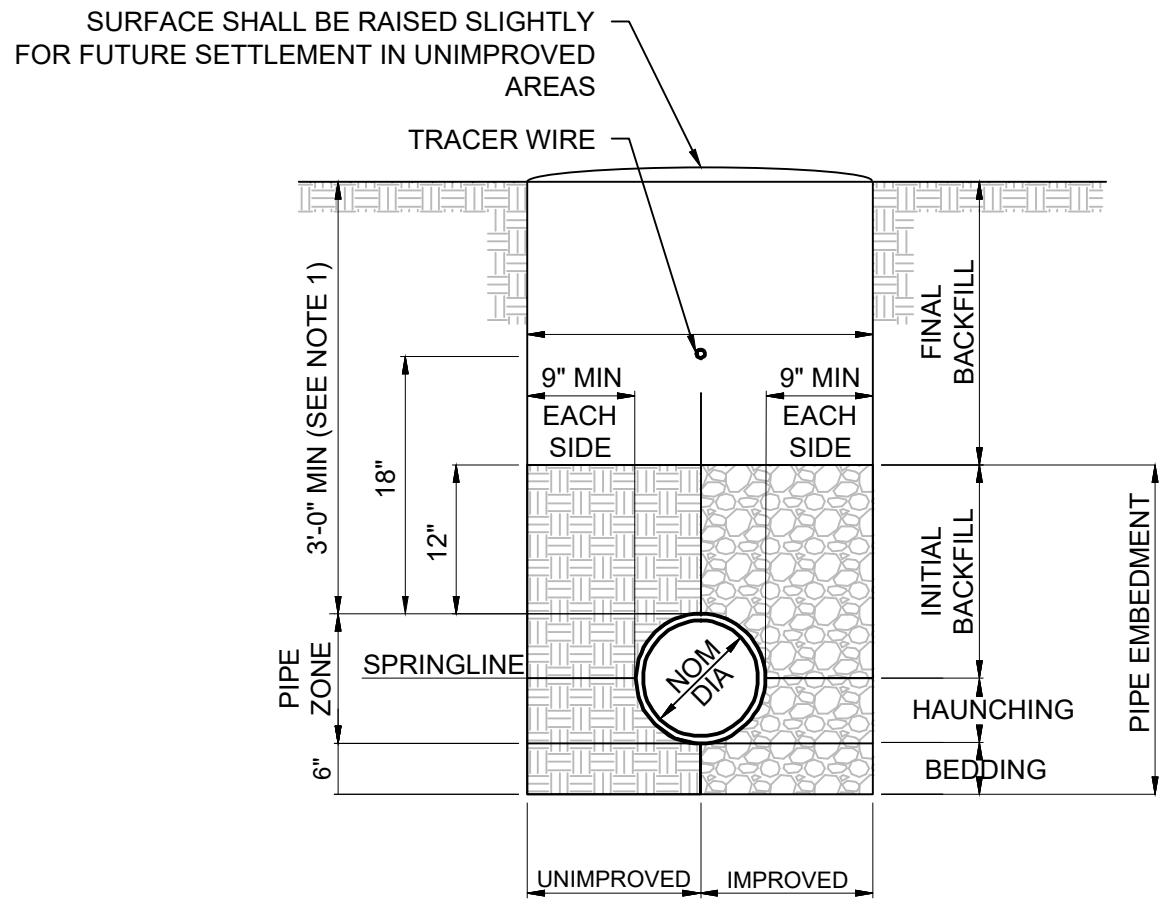
NOTE:
COORDINATES BASED ON NAD83,
TENNESSEE STATE PLANE.

NOTES

- 8" PIPING TO BE SDR 21 ASTM D2241 PVC
- 4" PIPING TO BE SCH 40 PVC (SUPPLY MAIN)
- 2" PIPING TO BE SCH 40 PVC (FLUSH MAIN)
- VALVES 4" AND LARGER TO BE AWWA C504 GATE VALVES
- VALVES SMALLER THAN 4" TO BE PVC BALL VALVES
- USE SOCKET WELD PVC FITTINGS IN ALL PIPING, UNLESS NOTED OTHERWISE.

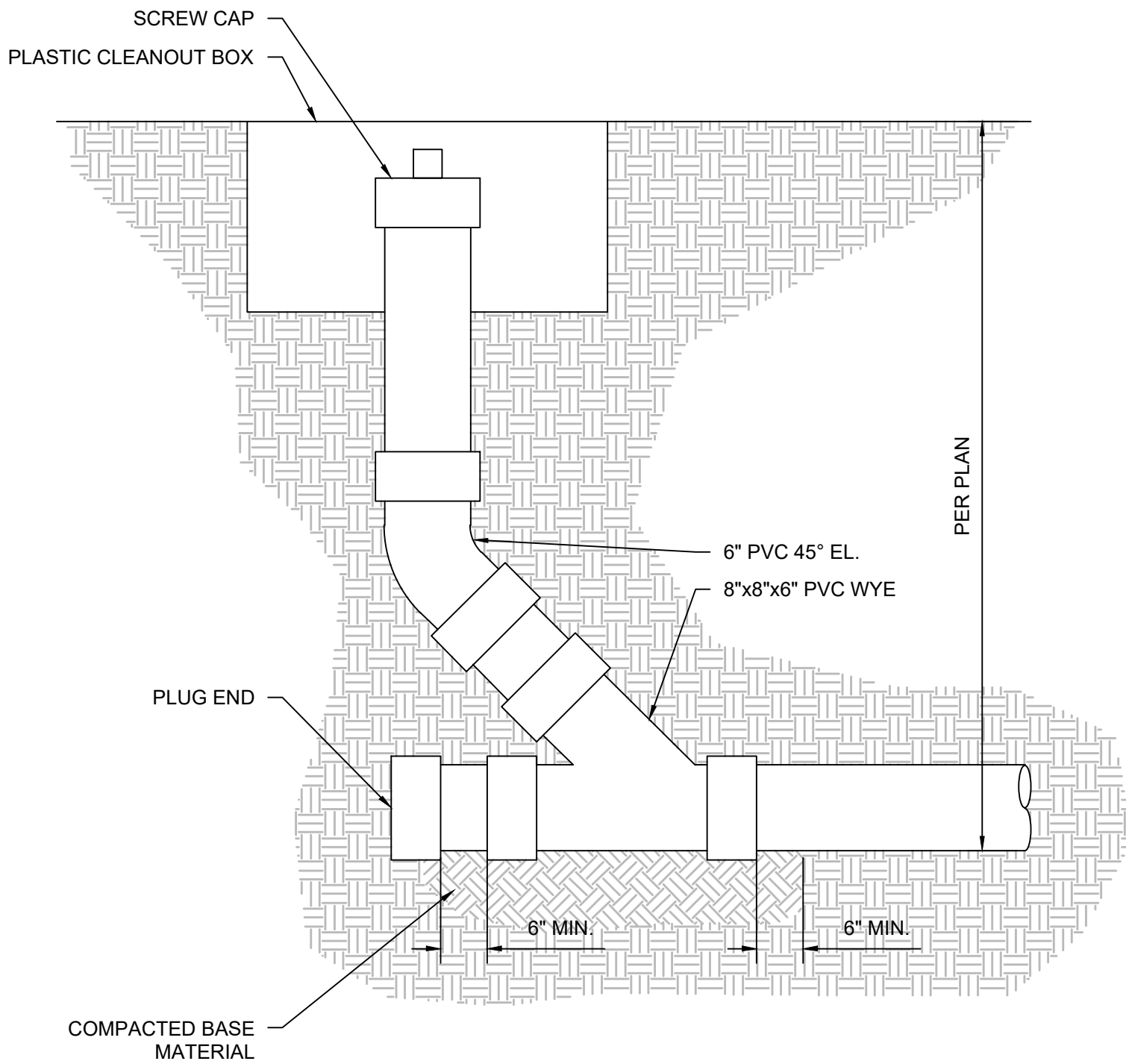




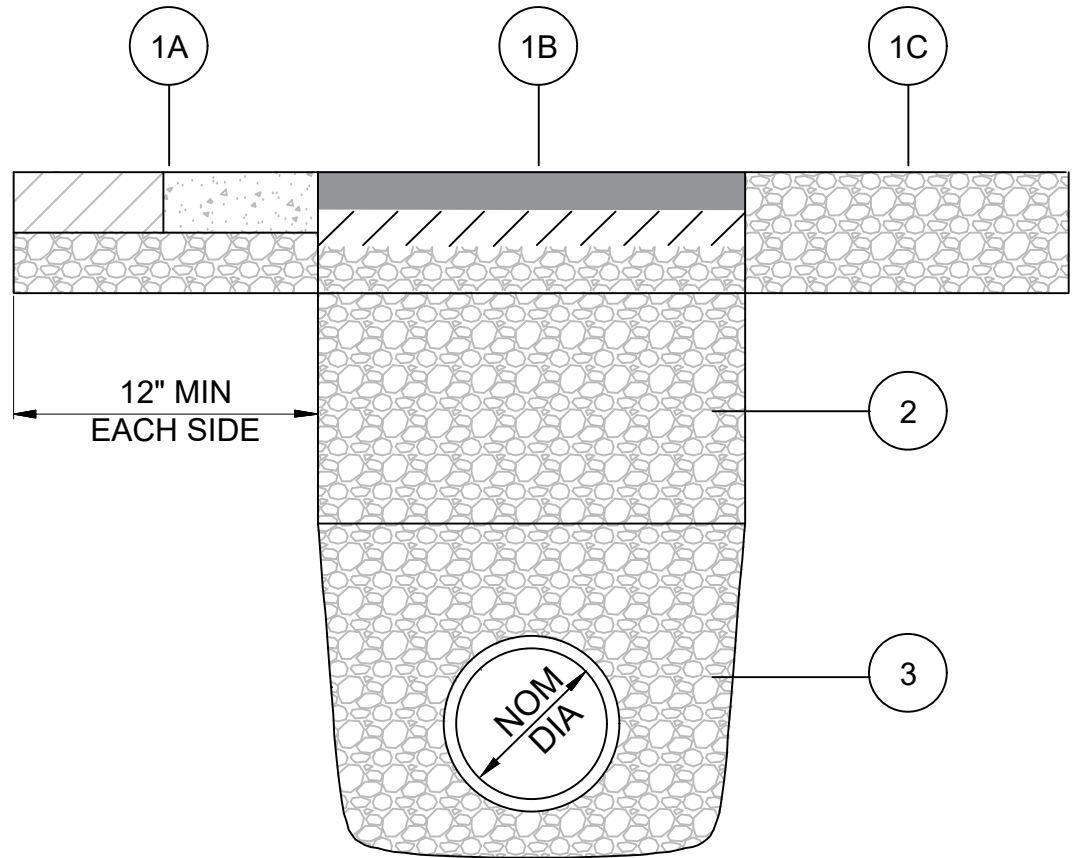


DETAIL
PVC PRESSURE PIPE INSTALLATION
NOT TO SCALE

- NOTES:
1. PROVIDE 4'-0" MINIMUM COVER UNDER PUBLIC ROADWAYS.
 2. BEDDING, HAUNCHING, AND INITIAL BACKFILL SHALL BE CRUSHED STONE COMPACTED TO 95% PER ATSM D698.
 3. FINAL BACKFILL SHALL BE COMMON EARTH, CRUSHED STONE, OR FLOWABLE FILL. CRUSHED STONE SHALL BE USED UNDER ALL IMPROVED SURFACES SUBJECT TO WHEEL LOAD. FLOWABLE FILL SHALL ONLY BE USED WHEN REQUIRED BY A DOT PERMIT REQUIREMENT & WITH ENGINEER APPROVAL.
 4. PIPE TO BE CONTINUOUSLY SUPPORTED ALONG LENGTH OF PIPE BARREL EXCEPT AT BELL. BELL HOLES ARE REQUIRED SUCH THAT NO BEARING LOAD IS TAKEN BY THE BELL.
 5. NOMINAL DIAMETER SHALL REFER TO CASING DIAMETER IN CASED INSTALLATIONS.
 6. TRACER WIRE SHALL BE 14GA, THHN, SOLID COPPER WITH GREEN INSULATED JACKET AND WATERPROOF GREASE FILLED WIRE CONNECTORS AT JUNCTIONS.



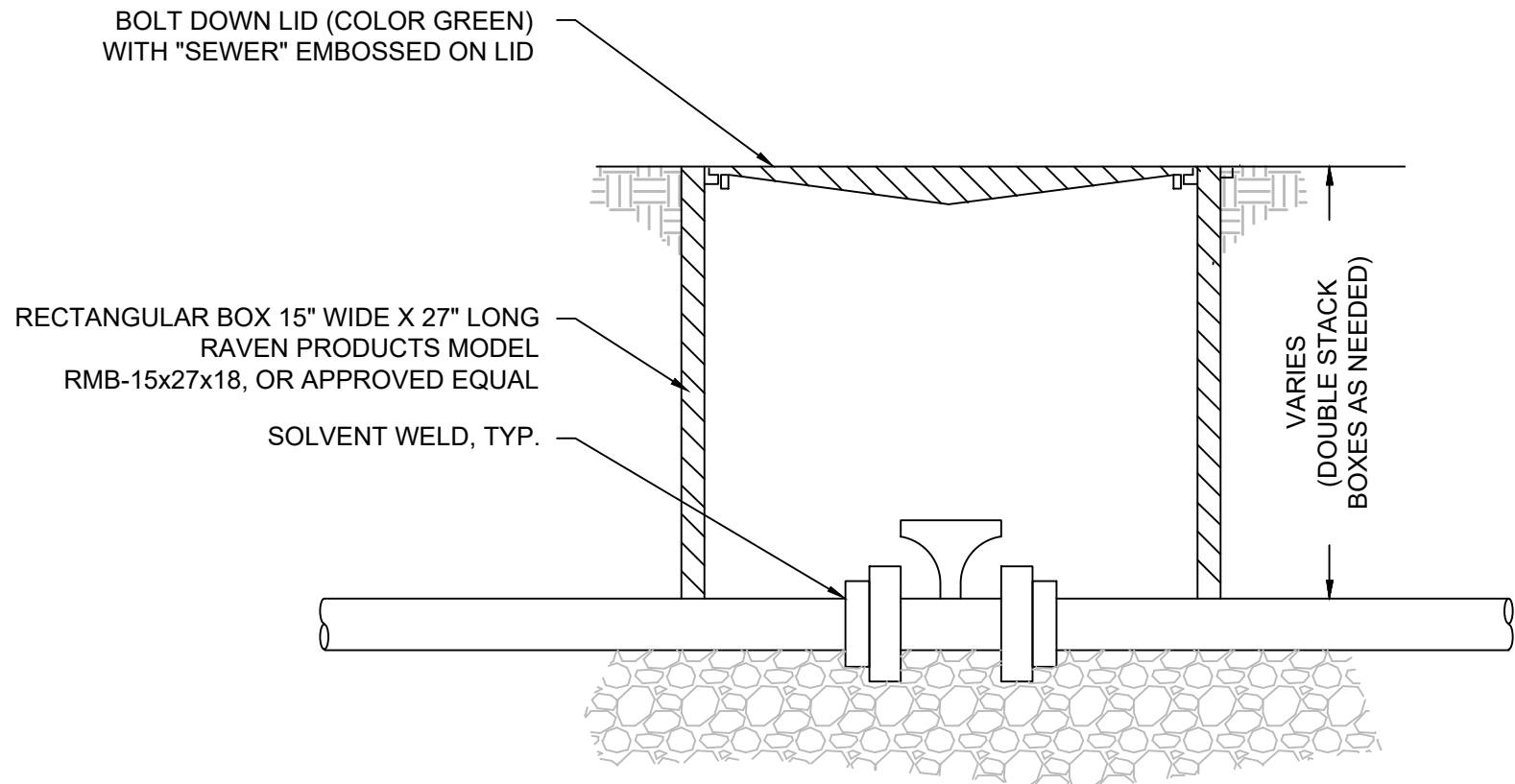
DETAIL
TYPICAL TERMINAL CLEANOUT
NOT TO SCALE



DETAIL
PAVEMENT REPAIR / IMPROVED SURFACE REPAIR
NOT TO SCALE

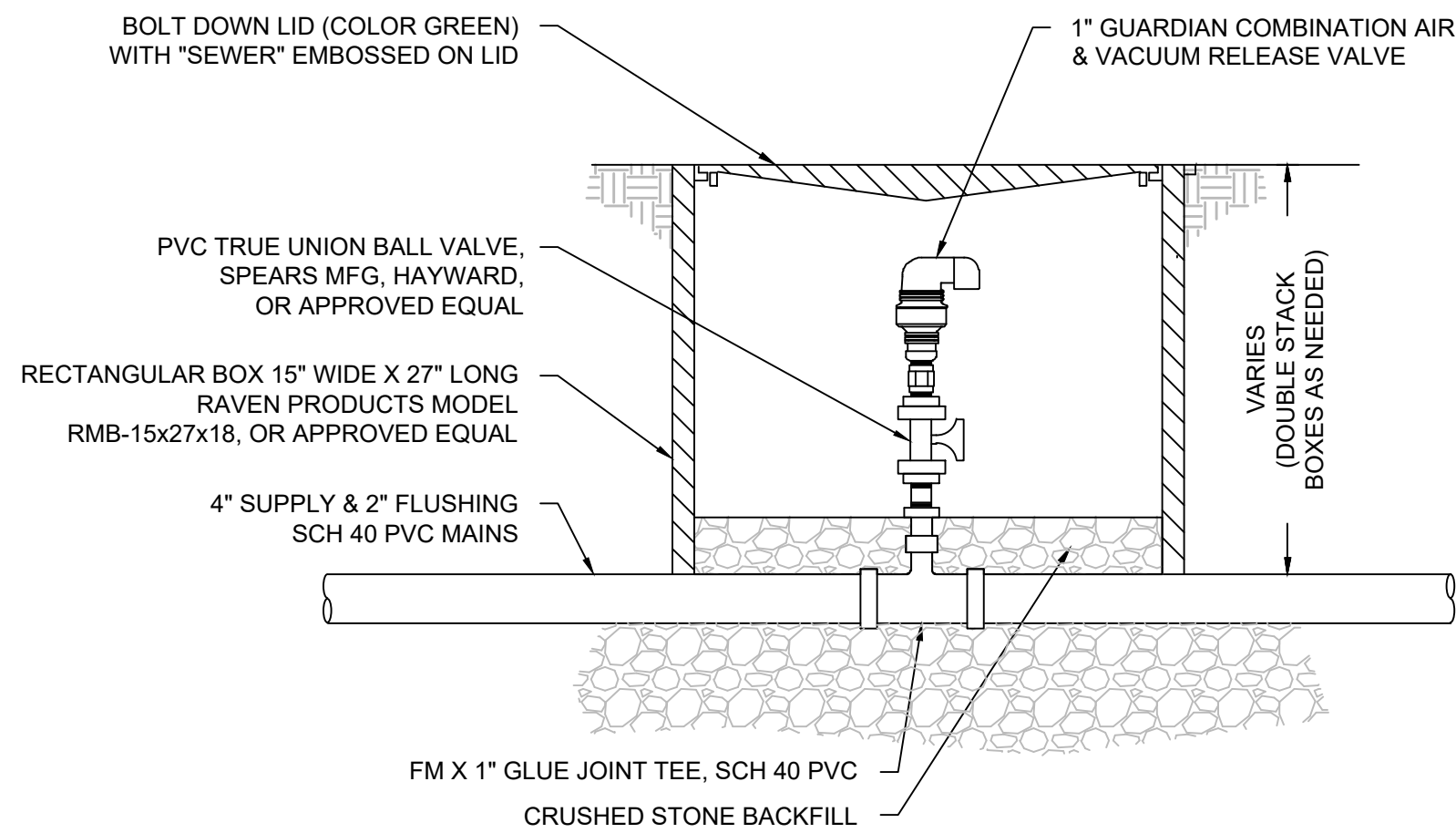
- 1A DRIVEWAYS AND PARKING LOTS
COMPACTED MINERAL AGGREGATE BASE. THE THICKNESS SHALL BE THE GREATER OF 8" OR THE EXISTING DEPTH OF BASE MATERIAL. THE MINERAL AGGREGATE SHALL BE COMPACTED 303-01, TYPE A, GRADING D ("33-P"), PER TDOT. SPECIFICATIONS. ASPHALTIC CONCRETE SURFACE COURSE SHALL BE MINIMUM 2" THICK, GRADING C, SECTION 307 SSRBC. PORTLAND CEMENT CONCRETE SURFACE COARSE SHALL BE MINIMUM 4" THICK, CLASS B.
- 1B CITY STREETS
COMPACTED MINERAL AGGREGATE BASE, 8" MINIMUM. A PRIME COAT SHALL BE APPLIED PRIOR TO 9" ASPHALTIC CONCRETE BINDER (307B MODIFIED), AND A TACK COAT APPLIED PRIOR TO 2" ASPHALTIC CONCRETE SURFACE (411E).
- 1C GRAVEL TRAFFIC AREAS
COMPACTED MINERAL AGGREGATE BASE. THE THICKNESS SHALL BE THE GREATER OF 6" OR THE EXISTING DEPTH OF BASE MATERIAL. THE MINERAL AGGREGATE SHALL BE COMPACTED 303-01, TYPE A, GRADING D ("33-P"), PER TDOT SPECIFICATIONS.
- 2 CRUSHED STONE BACKFILL PER SPECIFICATIONS
- 3 CRUSHED STONE BEDDING PER SPECIFICATIONS

- GENERAL REQUIREMENTS
1. ALL STREET CUTS MUST BE REPAIRED IMMEDIATELY AFTER BACKFILLING AND ACCORDING TO THIS STANDARD.
 2. A ROAD CUT PERMIT AND AN APPROVED TRAFFIC CONTROL PLAN ARE REQUIRED FOR ALL CUTS IN STREETS.
 3. WHERE LONGITUDINAL CUTS ARE MADE THE OWNER RESERVES THE RIGHT TO REQUIRE ADDITIONAL RESURFACING BEYOND THE LIMITS OF THE REPAIR TO ENSURE THE PROPER RIDING REQUIREMENTS AND THE STABILITY OF THE PAVEMENT.
 4. FOLLOWING TEMPORARY PAVEMENT REPAIRS, A MINIMUM OF 48 HOURS SHALL TRANSPIRE PRIOR TO COMPLETING PERMANENT PAVEMENT REPAIRS.
 5. BARRICADES OR METAL PLATES SHALL BE PLACED AROUND ALL HOLES WIDER THAN 4 INCHES UNTIL CONCRETE CAN WITHSTAND TRAFFIC.
 6. IMPROVED SURFACE RESTORATION INCLUDES ALL AREAS AND SURFACES EXCEPT AREAS TO RECEIVE FINAL GRADING AND SEEDING. IMPROVED SURFACES INCLUDES BUT NOT LIMITED TO STREETS, DRIVEWAYS, PARKING LOTS, SIDEWALKS, CURB AND GUTTER, AND GRAVEL TRAFFIC AREAS.
 7. IMPROVED SURFACES SHALL BE CUT TO NEAT AND STRAIGHT LINES TO MINIMIZE THE WIDTH OF SURFACE REPLACEMENT AND TO PREVENT CRACKS OR DAMAGE IN THE SURROUNDING SURFACE.



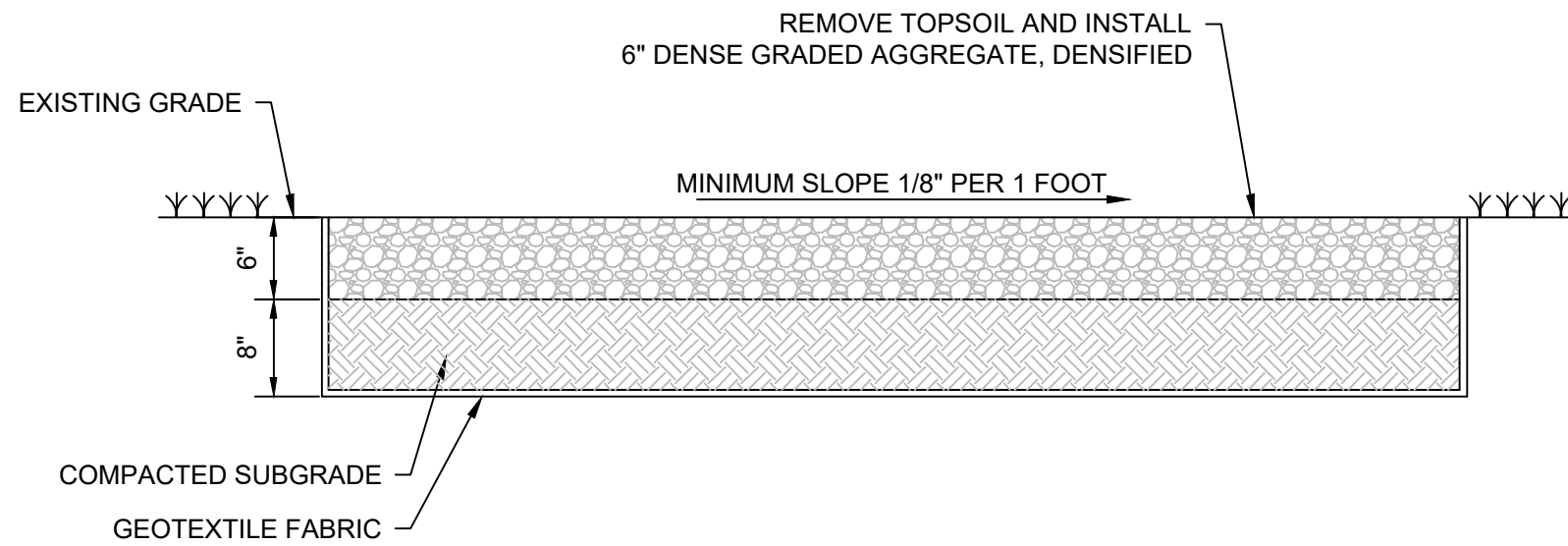
DETAIL
PVC BALL VALVE ASSEMBLY
NOT TO SCALE

- NOTES:
1. PVC BALL VALVES TO BE USED ON 2" & 3" FORCEMAIN. BALL VALVES SHALL BE TRUE UNION BY SPEARS MFG., HAYWARD, OR APPROVED EQUAL.

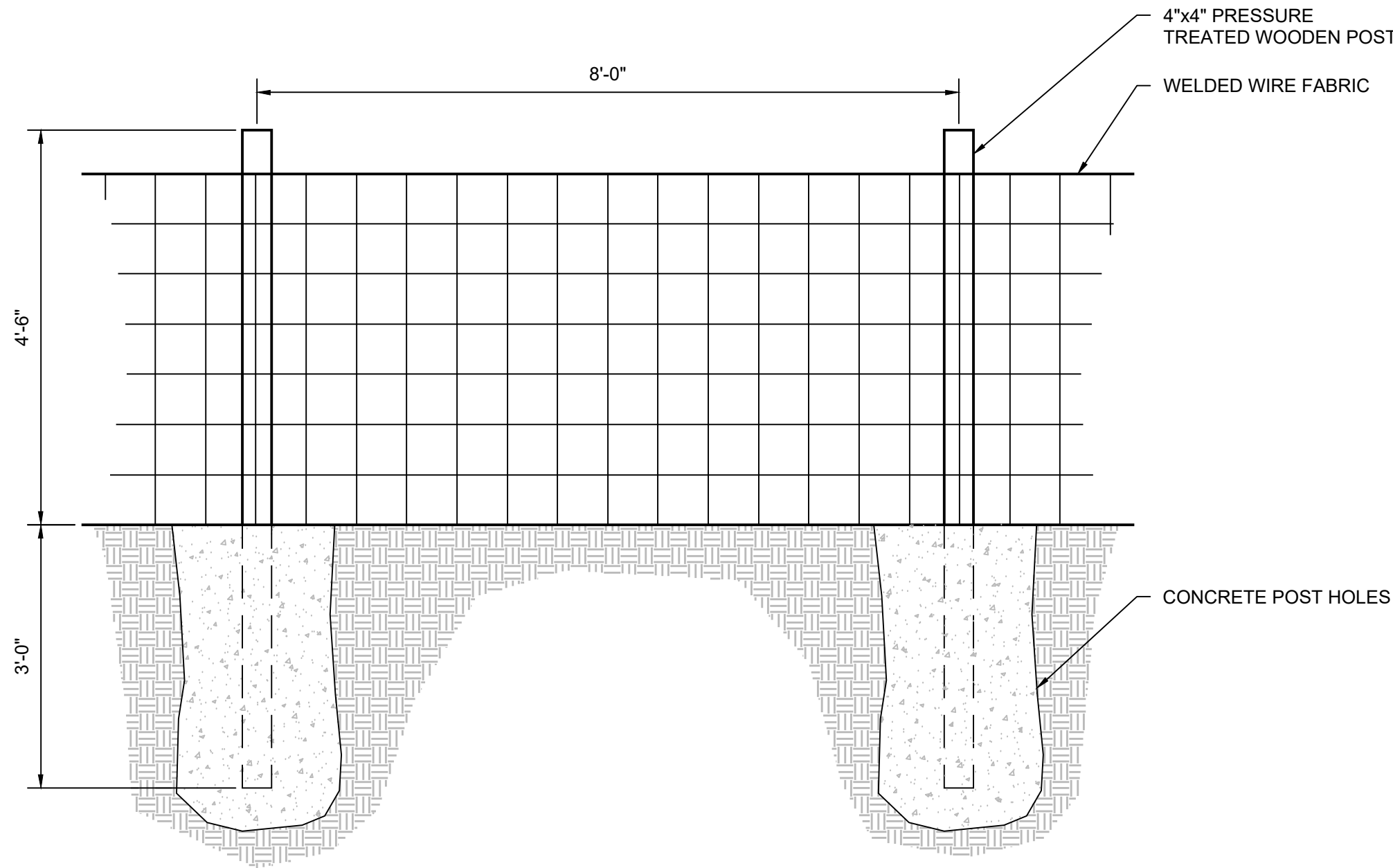


DETAIL
COMBINATION AIR / VACUUM VALVE (ARV)
NOT TO SCALE

- NOTES:
1. LOCATE ENTIRELY WITHIN RIGHT-OF-WAY.
 2. USE NIPPLES BETWEEN PVC TEE, BALL VALVE, AND ARV.

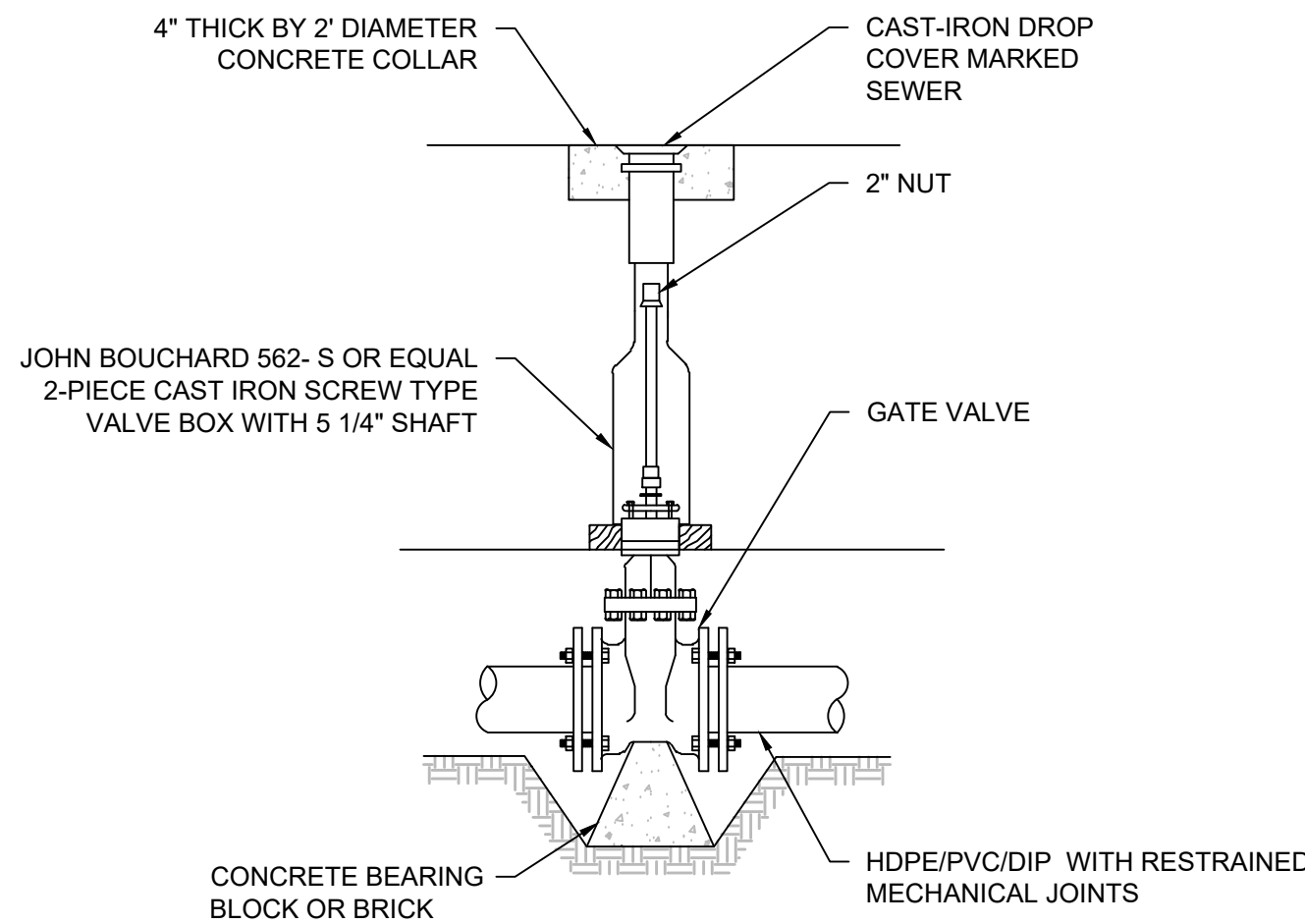


DETAIL
GRAVEL DRIVE
NOT TO SCALE



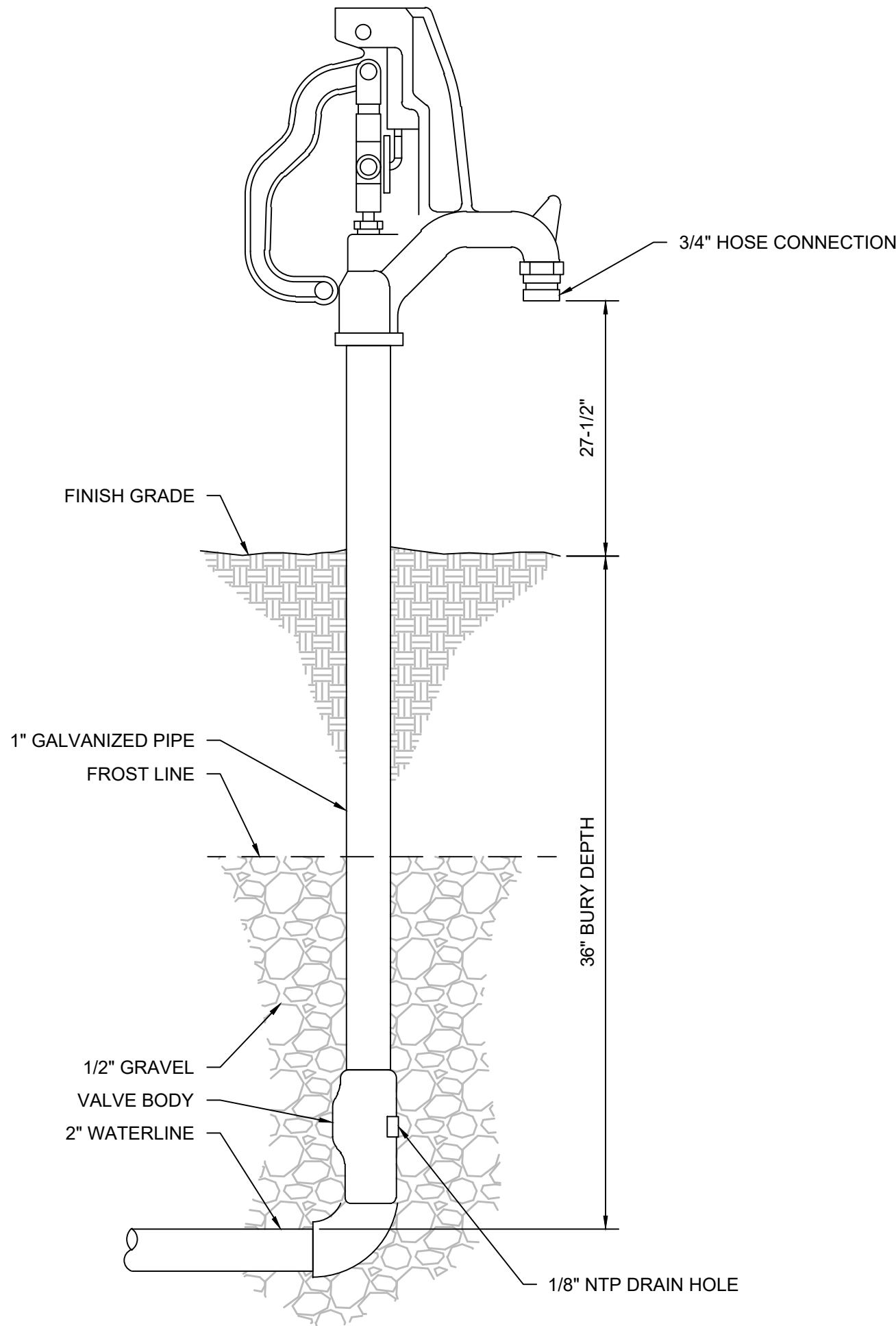
- NOTES:
1. BRACE ALL CORNERS, BOTH DIRECTIONS.
 2. USE 6"x6" POSTS AT SING GATES
 3. STAPLE EACH ROW AT POSTS
 4. WELDED WIRE FABRIC TO BE 48 INCH 12-1/2 GA GALVANIZED

DETAIL
WELDED WIRE FENCE
NOT TO SCALE



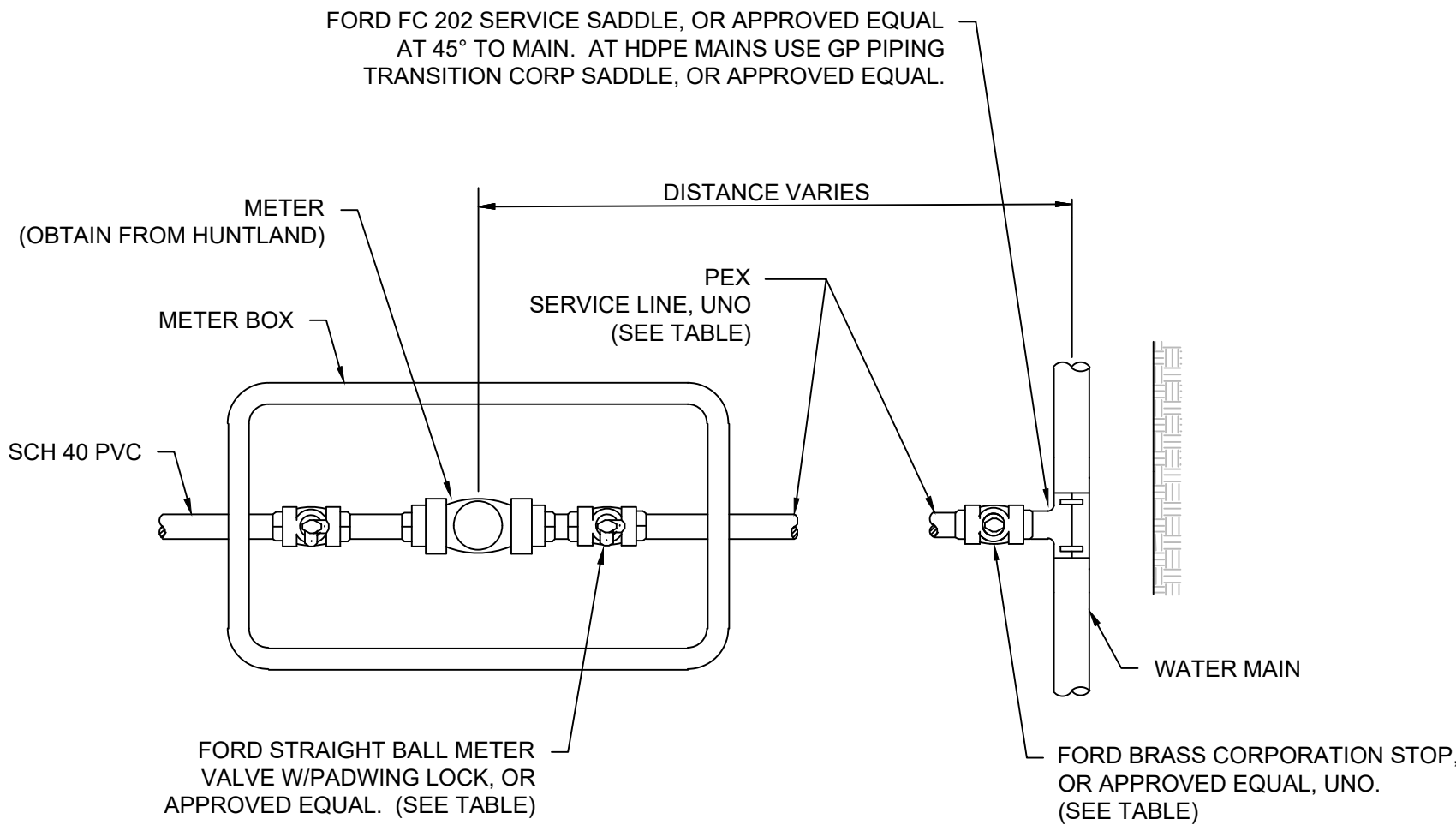
DETAIL
GATE VALVE ASSEMBLY
NOT TO SCALE

NOTES:
1. VALVES 4" AND LARGER SHALL BE GATE VALVES, AMERICAN SERIES 2500 RESILIENT WEDGE OR EQUAL.



DETAIL
YARD HYDRANT ASSEMBLY
NOT TO SCALE

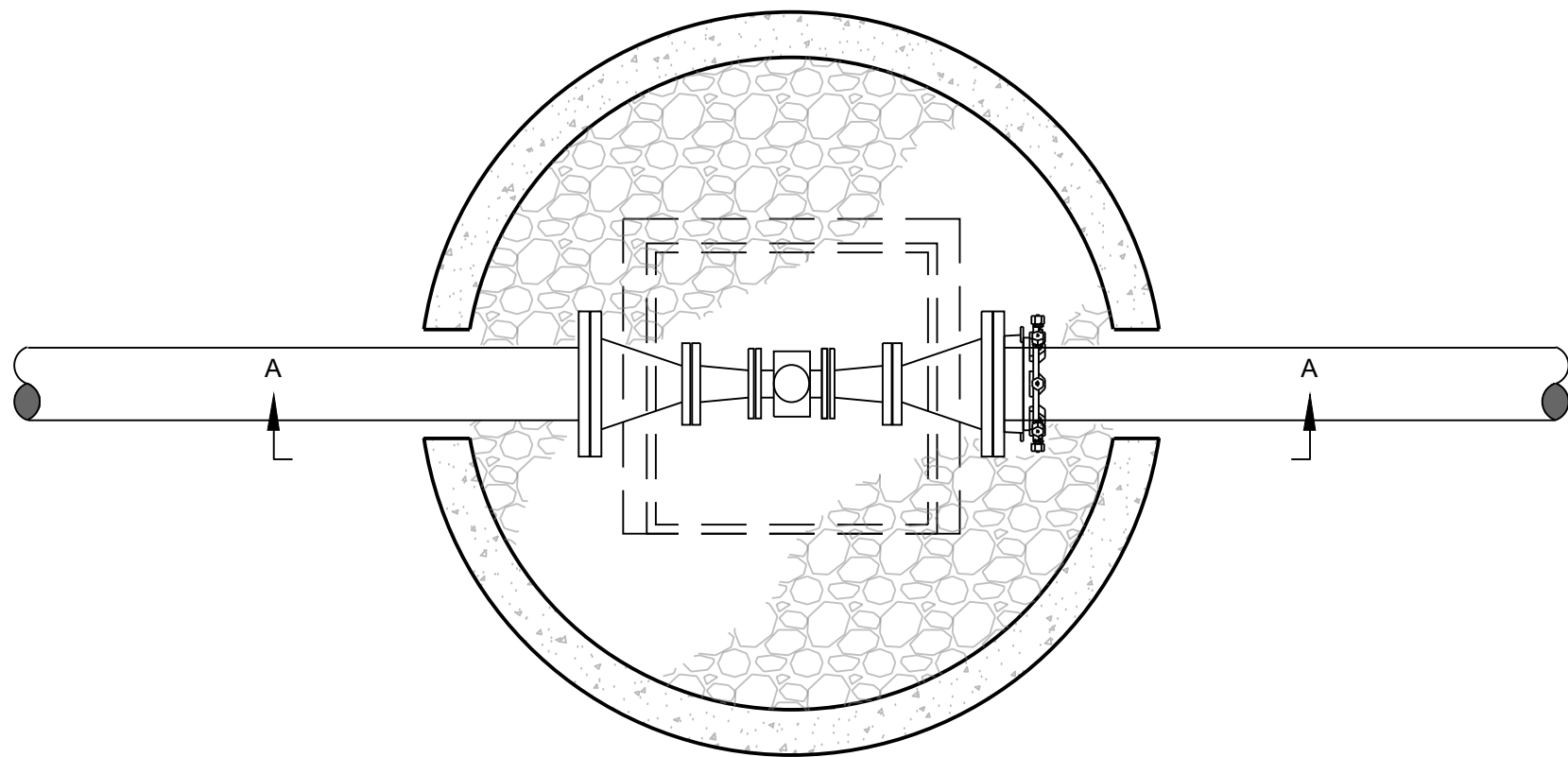
NOTES:
1. YARD HYDRANT TO BE WOODFORD Y34 FREEZE PROOF OR EQUAL.



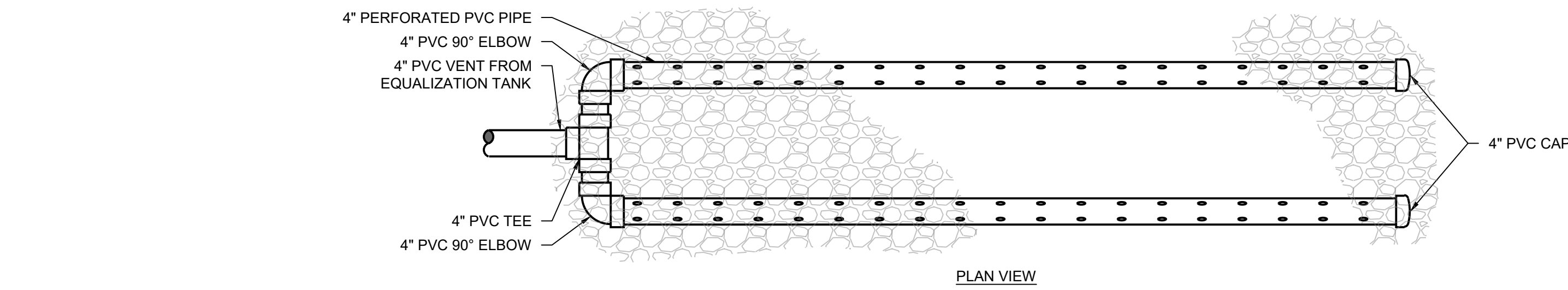
DETAIL
WATER SERVICE METER
NOT TO SCALE

- NOTES:
1. TYPICAL SERVICE SIZE 3/4" UNLESS NOTED OTHERWISE.
 2. CONNECT TO EXISTING WATER METER INSIDE OF EXISTING METER BOX, UNO.
 3. PULL TRACER WIRE INTO EACH METER BOX WITH SERVICE PIPING.
 4. SERVICE LINES IN ROADWAY TO BE BORED. OTHER IMPROVED AREAS (PARKING LOTS, DRIVEWAYS, ETC.) BORED AT CONTRACTOR'S OPTION.
 5. SERVICE PIPE MIN. BURY DEPTH SHALL BE 18" IN UNIMPROVED AREAS, 24" IN IMPROVED AREAS, AND 30" IN TDOT R.O.W.
 6. SERVICES WITHIN TDOT R.O.W. SHALL BE SLEEVED WITH 2" DR9 PIPE. SLEEVE SHALL EXTEND 5' BEYOND ROAD EDGE ON EACH SIDE.
 7. RECTANGULAR BOX 15" WIDE X 27" LONG RAVEN PRODUCTS MODEL RMB-15x27x18, OR APPROVED EQUAL WITH BOLT DOWN LID (COLOR GREEN) WITH "SEWER" EMBOSSED ON LID

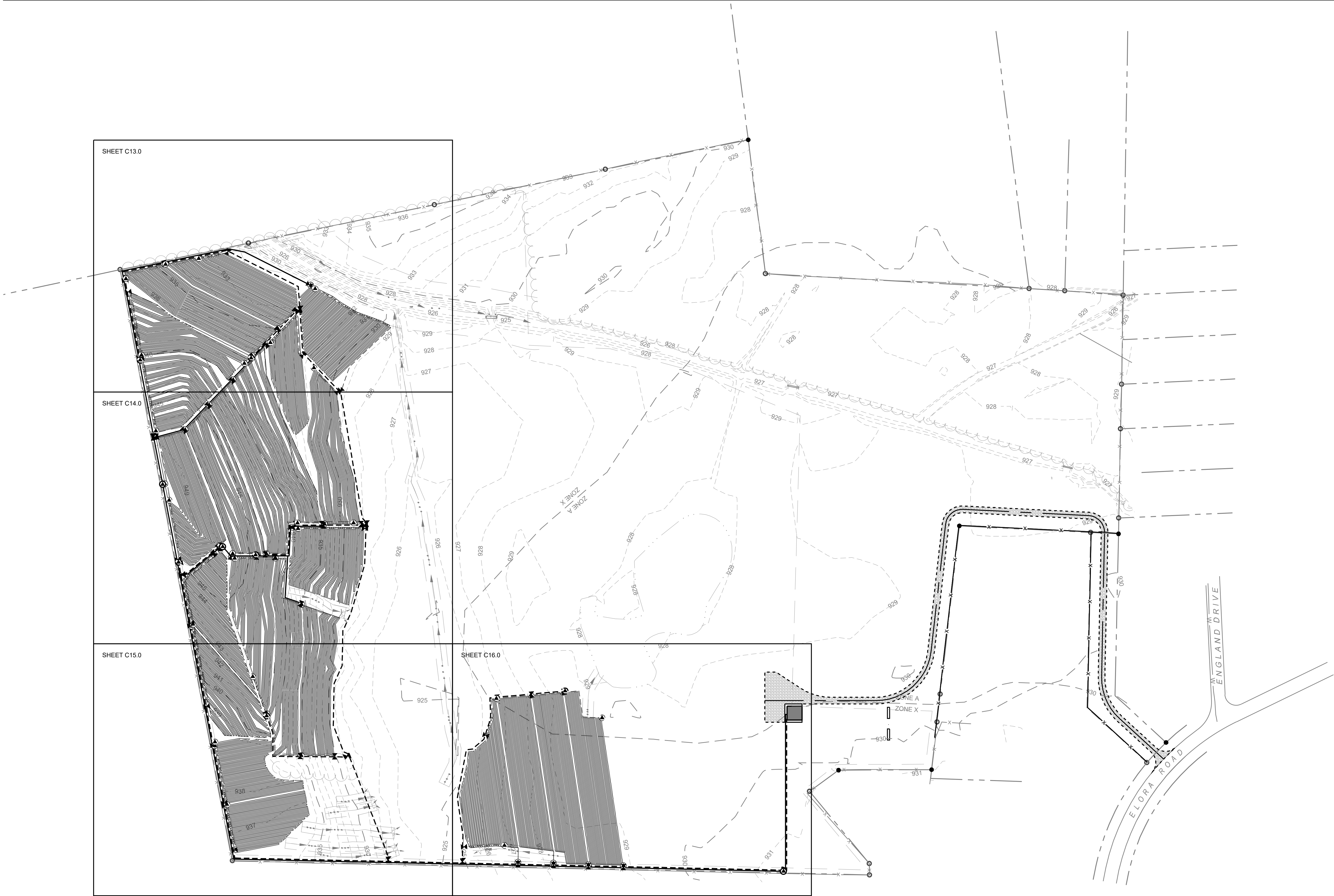
SERVICE SIZE	CORPORATION STOP	SERVICE PIPE	STRAIGHT BALL METER VALVE
3/4"	F1000-NL	3/4"	B43-232W-Q-NL
1"	F1000-NL	1"	B43-444W-Q-NL
2"	FB1600-7-NL	2"	B11-777W-NL



DETAIL
FLOW METERING MANHOLE
NOT TO SCALE



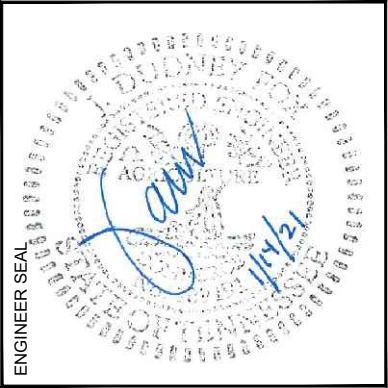
DETAIL
ODOR CONTROL SOIL BED
NOT TO SCALE



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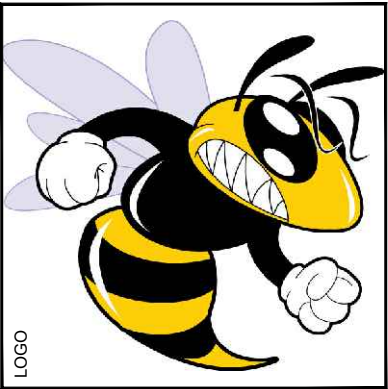


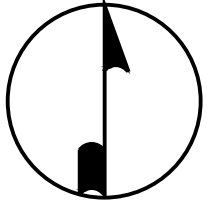
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PROJECT

TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004





NORTH

DRAWN BY
CAJ
APPROVED BY
JDF

DATE	ISSUE
2/26/21	IFB

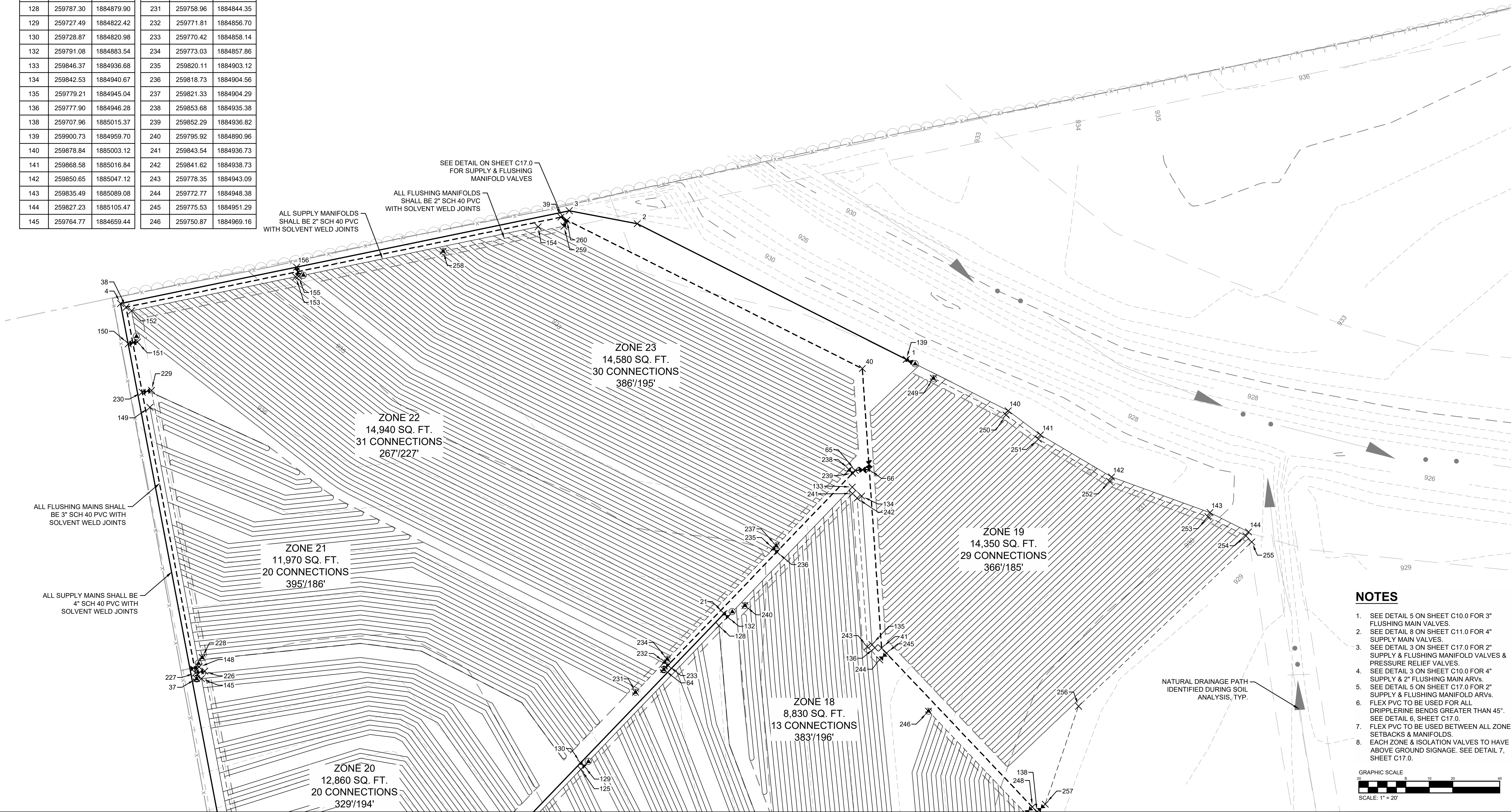
TITLE

OVERALL DRIP
DISPERSAL
LAYOUT

DRAWING NO.

C12.0

DRIP FIELD LAYOUT TABLE			DRIP FIELD LAYOUT TABLE			DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
1	259900.73	1884959.70	148	259769.72	1884658.50	248	259710.05	1885013.39
2	259958.53	1884845.10	149	259880.31	1884637.50	249	259892.69	1884971.22
3	259964.06	1884816.13	150	259907.38	1884628.29	250	259877.06	1885002.22
4	259924.54	1884625.03	151	259908.12	1884632.22	251	259866.80	1885015.94
21	259792.47	1884882.10	152	259921.42	1884629.70	252	259848.87	1885046.22
37	259764.76	1884657.41	153	259935.87	1884699.61	253	259833.70	1885088.18
38	259922.98	1884627.37	154	259957.23	1884802.85	254	259825.55	1885104.36
39	259961.28	1884812.59	155	259936.13	1884700.83	255	259822.98	1885106.80
40	259896.82	1884940.94	156	259940.04	1884700.01	256	259753.02	1885033.05
41	259777.78	1884949.15	226	259767.93	1884660.88	257	259711.26	1885018.85
64	259768.65	1884856.43	227	259767.19	1884656.95	258	259946.82	1884762.40
65	259853.44	1884937.92	228	259773.71	1884659.78	259	259957.46	1884813.85
66	259853.85	1884943.90	229	259887.50	1884638.17	260	259960.01	1884815.13
125	259726.12	1884821.11	230	259886.75	1884634.24			
128	259787.30	1884879.90	231	259758.96	1884844.35			
129	259727.49	1884822.42	232	259771.81	1884856.70			
130	259728.87	1884820.98	233	259770.42	1884858.14			
132	259791.08	1884883.54	234	259773.03	1884857.86			
133	259846.37	1884936.68	235	259820.11	1884903.12			
134	259842.53	1884940.67	236	259818.73	1884904.56			
135	259779.21	1884945.04	237	259821.33	1884904.29			
136	259777.90	1884946.28	238	259853.68	1884935.38			
138	259707.96	1885015.37	239	259852.29	1884936.82			
139	259900.73	1884959.70	240	259795.92	1884890.96			
140	259878.84	1885003.12	241	259843.54	1884936.73			
141	259868.58	1885016.84	242	259841.62	1884938.73			
142	259850.65	1885047.12	243	259778.35	1884943.09			
143	259835.49	1885089.08	244	259772.77	1884948.38			
144	259827.23	1885105.47	245	259775.53	1884951.29			
145	259764.77	1884659.44	246	259750.87	1884969.16			



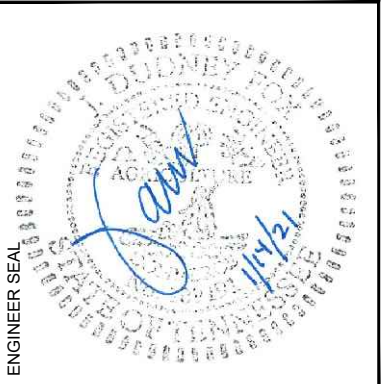
DRIP DISPERSAL LEGEND

SUPPLY MAIN	—————
FLUSH MAIN	-----
SUPPLY MANIFOLD	-----
FLUSH MANIFOLD	-----
DRIP DISPERSAL LINE	-----
ZONE BOUNDARY	-----
SETBACK	-----
ARV	⊙
ISOLATION VALVE	⊕

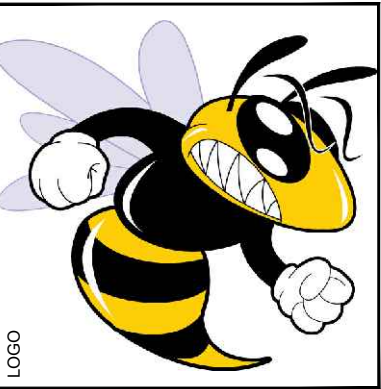
NOTES

- SEE DETAIL 5 ON SHEET C10.0 FOR 3" FLUSHING MAIN VALVES.
- SEE DETAIL 8 ON SHEET C11.0 FOR 4" SUPPLY MAIN VALVES.
- SEE DETAIL 3 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD VALVES & PRESSURE RELIEF VALVES.
- SEE DETAIL 3 ON SHEET C10.0 FOR 4" SUPPLY & 2" FLUSHING MAIN ARVs.
- SEE DETAIL 5 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD ARVs.
- FLEX PVC TO BE USED FOR ALL DRIPPLERINE BENDS GREATER THAN 45". SEE DETAIL 6, SHEET C17.0.
- FLEX PVC TO BE USED BETWEEN ALL ZONE SETBACKS & MANIFOLDS.
- EACH ZONE & ISOLATION VALVES TO HAVE ABOVE GROUND SIGNAGE. SEE DETAIL 7, SHEET C17.0.

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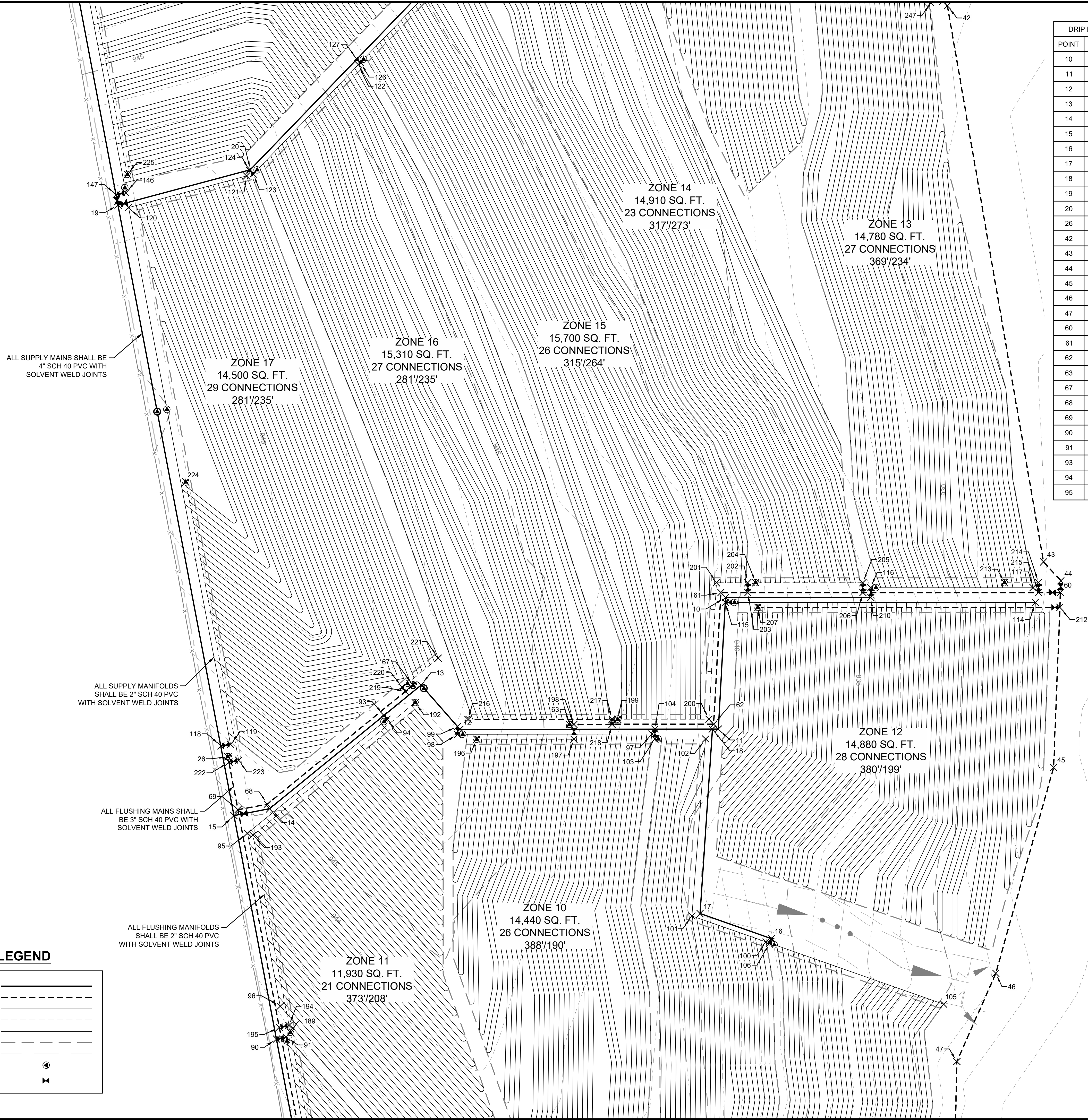
TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004



NORTH
DRAWN BY
CAJ
APPROVED BY
JDF

DATE	ISSUE
2/26/21	IFB

TITLE
DRIP DISPERSAL
ENLARGED
PLAN
DRAWING NO.
C13.0



DRIP DISPERSAL LEGEND

SUPPLY MAIN	
FLUSH MAIN	
SUPPLY MANIFOLD	
FLUSH MANIFOLD	
DRIP DISPERSAL LINE	
ZONE BOUNDARY	
SETBACK	
ARV	
ISOLATION VALVE	

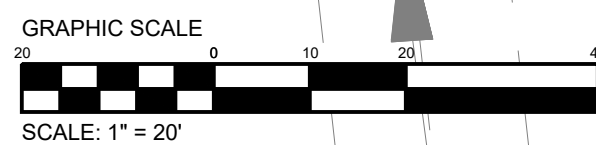
DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING
10	259466.76	1884927.47
11	259413.54	1884924.53
12	259413.42	1884820.08
13	259431.36	1884804.34
14	259381.30	1884743.06
15	259378.57	1884728.71
16	259328.80	1884946.02
17	259338.90	1884917.18
18	259413.53	1884922.13
19	259625.46	1884681.83
20	259639.74	1884735.31
26	259402.35	1884726.23
42	259706.05	1885017.19
43	259481.18	1885056.04
44	259473.55	1885063.09
45	259398.04	1885060.13
46	259314.76	1885036.74
47	259279.03	1885021.01
60	259468.76	1885062.90
61	259468.76	1884925.58
62	259415.53	1884922.64
63	259415.47	1884864.39
67	259431.31	1884801.11
68	259383.17	1884742.18
69	259380.91	1884730.30
90	259288.20	1884745.87
91	259288.94	1884749.80
93	259419.09	1884789.32
94	259417.54	1884790.58
95	259371.43	1884734.14

DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING
96	259301.47	1884747.42
97	259411.51	1884897.71
98	259411.42	1884819.10
99	259414.54	1884819.09
100	259327.44	1884943.87
101	259337.94	1884913.89
102	259409.53	1884919.42
103	259409.51	1884898.91
104	259413.51	1884898.90
105	259302.29	1885015.67
106	259326.91	1884945.36
114	259464.76	1885052.74
115	259464.76	1884927.36
116	259470.76	1884986.22
117	259470.76	1885051.81
118	259406.72	1884723.37
119	259407.46	1884727.30
120	259624.53	1884686.08
121	259637.26	1884733.80
122	259682.31	1884779.00
123	259638.06	1884736.48
124	259639.62	1884734.86
126	259683.14	1884779.80
127	259684.53	1884778.36
146	259630.45	1884684.95
147	259629.71	1884681.02
189	259290.84	1884751.48
192	259424.27	1884801.98
193	259370.63	1884736.32
194	259293.66	1884750.94

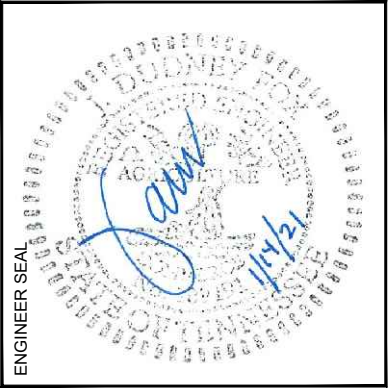
DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING
195	259292.92	1884747.01
196	259409.42	1884826.89
197	259409.47	1884866.19
198	259415.47	1884866.18
199	259417.49	1884883.87
200	259417.53	1884920.74
201	259472.76	1884923.80
202	259472.76	1884936.49
203	259468.76	1884936.49
204	259472.76	1884939.67
205	259472.76	1884983.01
206	259468.76	1884983.01
207	259462.76	1884940.57
210	259466.76	1884986.22
212	259462.76	1885062.67
213	259472.76	1885040.24
214	259472.76	1885054.06
215	259468.76	1885054.06
216	259417.42	1884823.32
217	259417.49	1884881.56
218	259415.49	1884881.56
219	259428.80	1884798.04
220	259430.35	1884796.77
221	259442.20	1884811.28
222	259400.20	1884726.64
223	259400.94	1884730.57
224	259513.46	1884709.20
225	259637.86	1884685.58
247	259707.30	1885010.49

NOTES

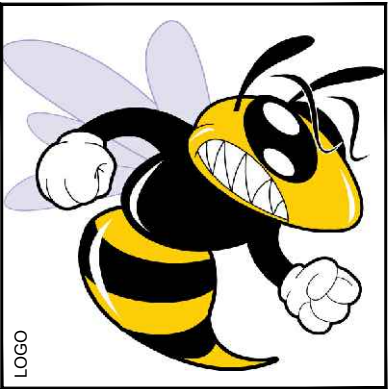
- SEE DETAIL 5 ON SHEET C10.0 FOR 3" FLUSHING MAIN VALVES.
- SEE DETAIL 8 ON SHEET C11.0 FOR 4" SUPPLY MAIN VALVES.
- SEE DETAIL 3 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD VALVES & PRESSURE RELIEF VALVES.
- SEE DETAIL 3 ON SHEET C10.0 FOR 4" SUPPLY & 2" FLUSHING MAIN ARVs.
- SEE DETAIL 5 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD ARVs.
- FLEX PVC TO BE USED FOR ALL DRIPPLERINE BENDS GREATER THAN 45". SEE DETAIL 6, SHEET C17.0.
- FLEX PVC TO BE USED BETWEEN ALL ZONE SETBACKS & MANIFOLDS.
- EACH ZONE & ISOLATION VALVES TO HAVE ABOVE GROUND SIGNAGE. SEE DETAIL 7, SHEET C17.0.



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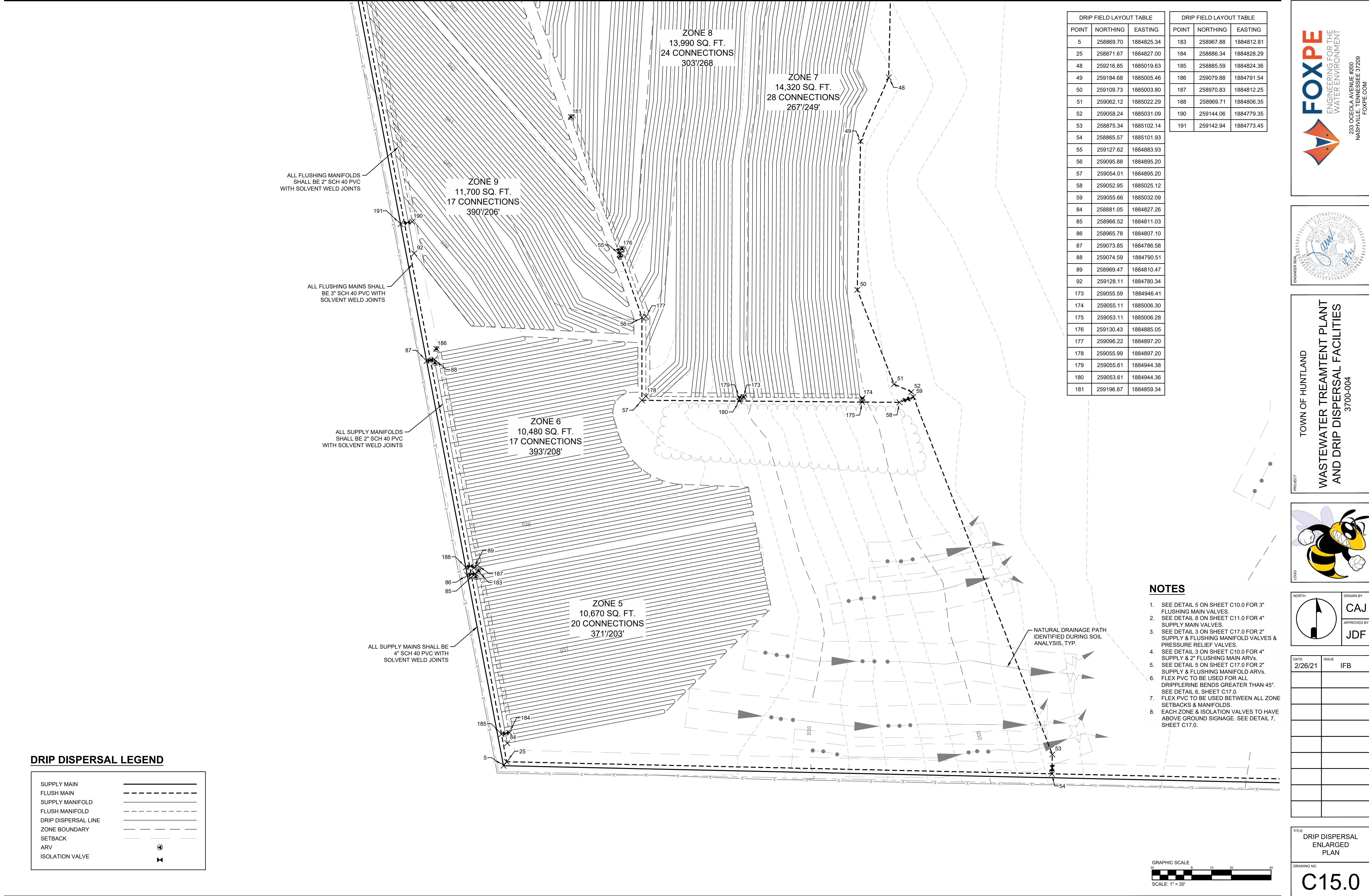
TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004



NORTH
DRAWN BY
CAJ
APPROVED BY
JDF

DATE	ISSUE
2/26/21	IFB

TITLE
DRIP DISPERSAL
ENLARGED
PLAN
DRAWING NO.
C14.0



DRIP FIELD LAYOUT TABLE			DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
5	258869.70	1884825.34	183	258967.88	1884812.81
25	258871.67	1884827.00	184	258886.34	1884828.29
48	259216.85	1885019.63	185	258885.59	1884824.36
49	259184.68	1885005.46	186	259079.88	1884791.54
50	259109.73	1885003.80	187	258970.83	1884812.25
51	259062.12	1885022.29	188	258969.71	1884806.35
52	259058.24	1885031.09	190	259144.06	1884779.35
53	258875.34	1885102.14	191	259142.94	1884773.45
54	258865.57	1885101.93			
55	259127.62	1884883.93			
56	259095.88	1884895.20			
57	259054.01	1884895.20			
58	259052.95	1885025.12			
59	259055.66	1885032.09			
84	258881.05	1884827.26			
85	258966.52	1884811.03			
86	258965.78	1884807.10			
87	259073.85	1884786.58			
88	259074.59	1884790.51			
89	258969.47	1884810.47			
92	259128.11	1884780.34			
173	259055.59	1884946.41			
174	259055.11	1885006.30			
175	259053.11	1885006.28			
176	259130.43	1884885.05			
177	259096.22	1884897.20			
178	259055.99	1884897.20			
179	259055.61	1884944.38			
180	259053.61	1884944.36			
181	259196.87	1884859.34			

DRIP DISPERSAL LEGEND

SUPPLY MAIN	—————
FLUSH MAIN	- - - - -
SUPPLY MANIFOLD	—————
FLUSH MANIFOLD	- - - - -
DRIP DISPERSAL LINE	—————
ZONE BOUNDARY	- - - - -
SETBACK	—————
ARV	⊙
ISOLATION VALVE	⌞

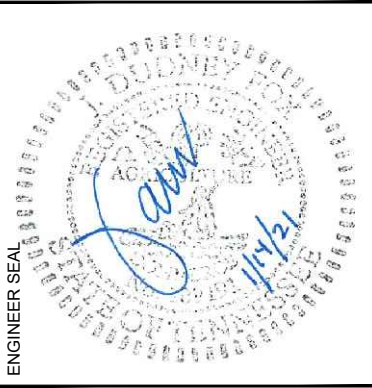
NOTES

- SEE DETAIL 5 ON SHEET C10.0 FOR 3" FLUSHING MAIN VALVES.
- SEE DETAIL 8 ON SHEET C11.0 FOR 4" SUPPLY MAIN VALVES.
- SEE DETAIL 3 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD VALVES & PRESSURE RELIEF VALVES.
- SEE DETAIL 3 ON SHEET C10.0 FOR 4" SUPPLY & 2" FLUSHING MAIN ARVs.
- SEE DETAIL 5 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD ARVs.
- FLEX PVC TO BE USED FOR ALL DRIPPLERINE BENDS GREATER THAN 45°. SEE DETAIL 6, SHEET C17.0.
- FLEX PVC TO BE USED BETWEEN ALL ZONE SETBACKS & MANIFOLDS.
- EACH ZONE & ISOLATION VALVES TO HAVE ABOVE GROUND SIGNAGE. SEE DETAIL 7, SHEET C17.0.



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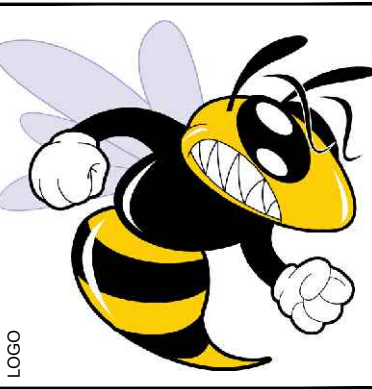


PROJECT

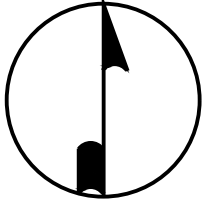
TOWN OF HUNTLAND

WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES

3700-004



NORTH



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CAJ

APPROVED BY

JDF

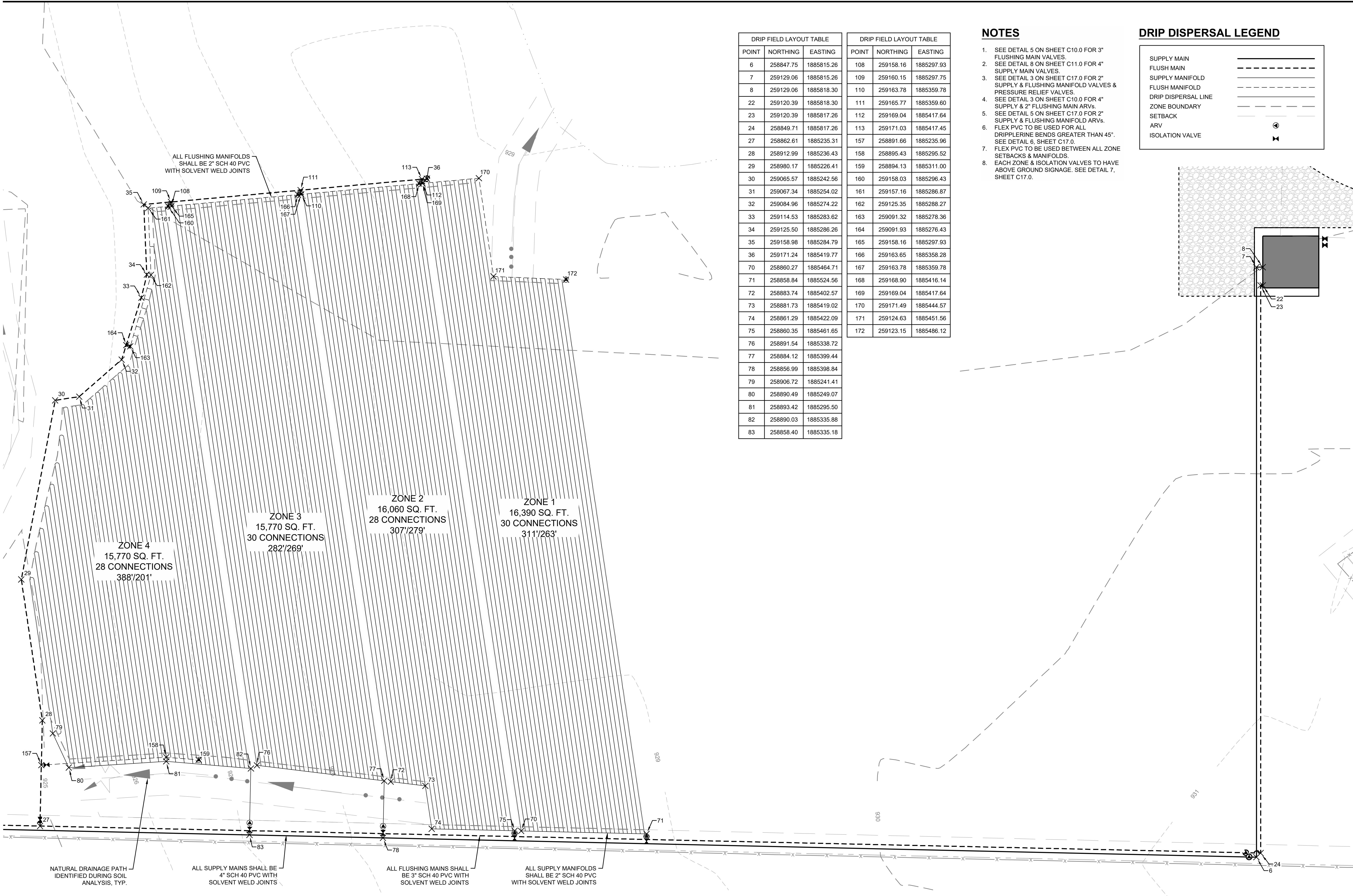
DATE	ISSUE
2/26/21	IFB

TITLE

DRIP DISPERSAL
ENLARGED
PLAN

DRAWING NO.

C15.0



DRIP FIELD LAYOUT TABLE			DRIP FIELD LAYOUT TABLE		
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
6	258847.75	1885815.26	108	259158.16	1885297.93
7	259129.06	1885815.26	109	259160.15	1885297.75
8	259129.06	1885818.30	110	259163.78	1885359.78
22	259120.39	1885818.30	111	259165.77	1885359.60
23	259120.39	1885817.26	112	259169.04	1885417.64
24	258849.71	1885235.31	113	259171.03	1885417.45
27	258862.61	1885235.31	157	258891.66	1885235.96
28	258912.99	1885236.43	158	258895.43	1885295.52
29	258980.17	1885226.41	159	258894.13	1885311.00
30	259065.57	1885242.56	160	259158.03	1885296.43
31	259067.34	1885254.02	161	259157.16	1885286.87
32	259084.96	1885274.22	162	259125.35	1885288.27
33	259114.53	1885283.62	163	259091.32	1885278.36
34	259125.50	1885286.26	164	259091.93	1885276.43
35	259158.98	1885284.79	165	259158.16	1885297.93
36	259171.24	1885419.77	166	259163.65	1885358.28
70	258860.27	1885464.71	167	259163.78	1885359.78
71	258858.84	1885524.56	168	259168.90	1885416.14
72	258883.74	1885402.57	169	259169.04	1885417.64
73	258881.73	1885419.02	170	259171.49	1885444.57
74	258861.29	1885422.09	171	259124.63	1885451.56
75	258860.35	1885461.65	172	259123.15	1885486.12
76	258891.54	1885338.72			
77	258884.12	1885399.44			
78	258856.99	1885398.84			
79	258906.72	1885241.41			
80	258890.49	1885249.07			
81	258893.42	1885295.50			
82	258890.03	1885335.88			
83	258858.40	1885335.18			

- NOTES**
- SEE DETAIL 5 ON SHEET C10.0 FOR 3" FLUSHING MAIN VALVES.
 - SEE DETAIL 8 ON SHEET C11.0 FOR 4" SUPPLY MAIN VALVES.
 - SEE DETAIL 3 ON SHEET C17.0 FOR 2" SUPPLY & FLUSHING MANIFOLD VALVES & PRESSURE RELIEF VALVES.
 - SEE DETAIL 3 ON SHEET C10.0 FOR 4" SUPPLY & 2" FLUSHING MAIN ARVs.
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 - FLEX PVC TO BE USED FOR ALL DRIPPERLINE BENDS GREATER THAN 45". SEE DETAIL 6, SHEET C17.0.
 - FLEX PVC TO BE USED BETWEEN ALL ZONE SETBACKS & MANIFOLDS.
 - EACH ZONE & ISOLATION VALVES TO HAVE ABOVE GROUND SIGNAGE. SEE DETAIL 7, SHEET C17.0.

DRIP DISPERSAL LEGEND

SUPPLY MAIN
FLUSH MAIN
SUPPLY MANIFOLD
FLUSH MANIFOLD
DRIP DISPERSAL LINE
ZONE BOUNDARY
SETBACK
ARV
ISOLATION VALVE

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ENGINEER SEAL

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AND DRIP DISPERSAL FACILITIES
3700-004

LOGO

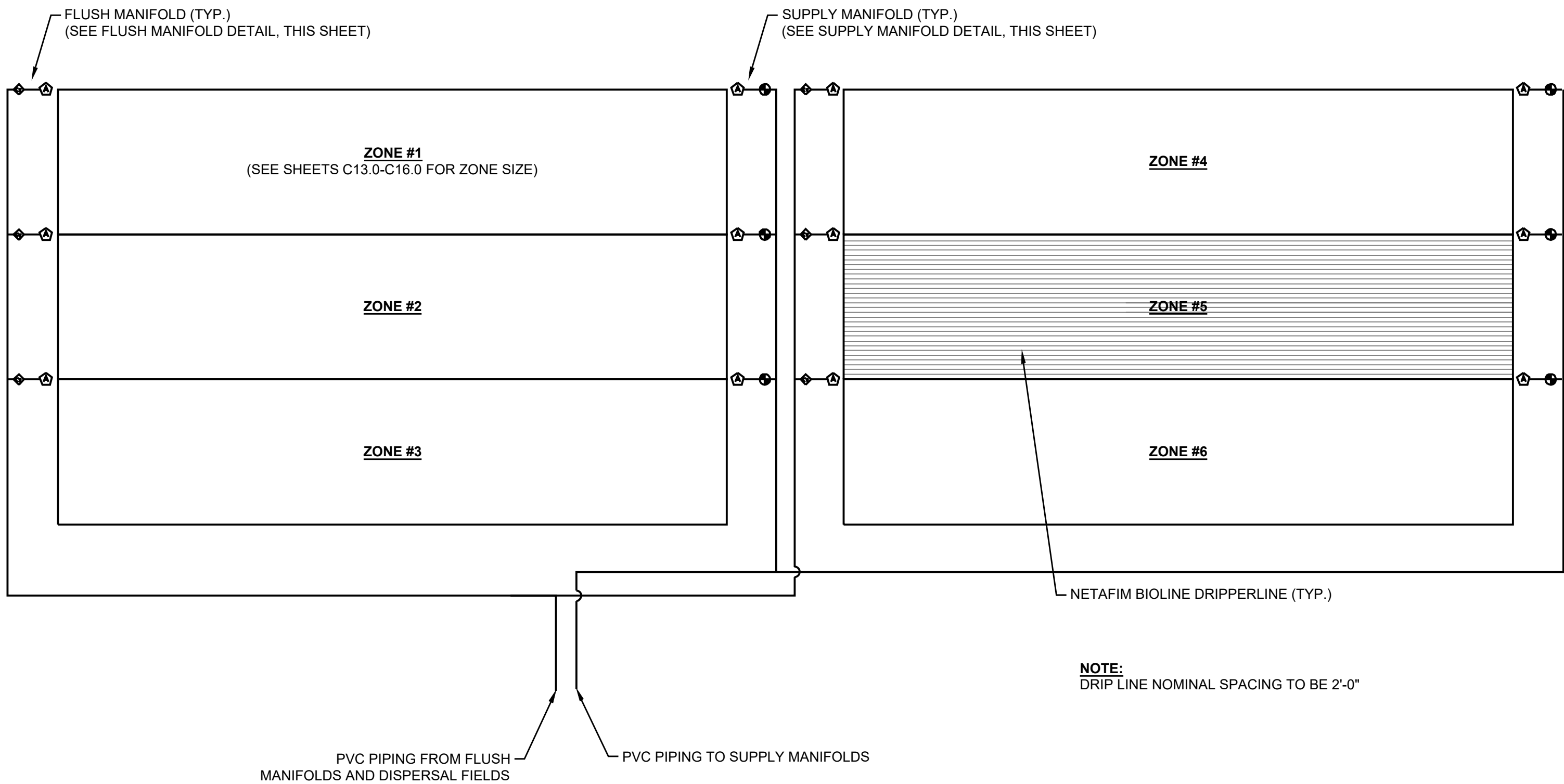
NORTH

DRAWN BY
CAJ
APPROVED BY
JDF

DATE	ISSUE
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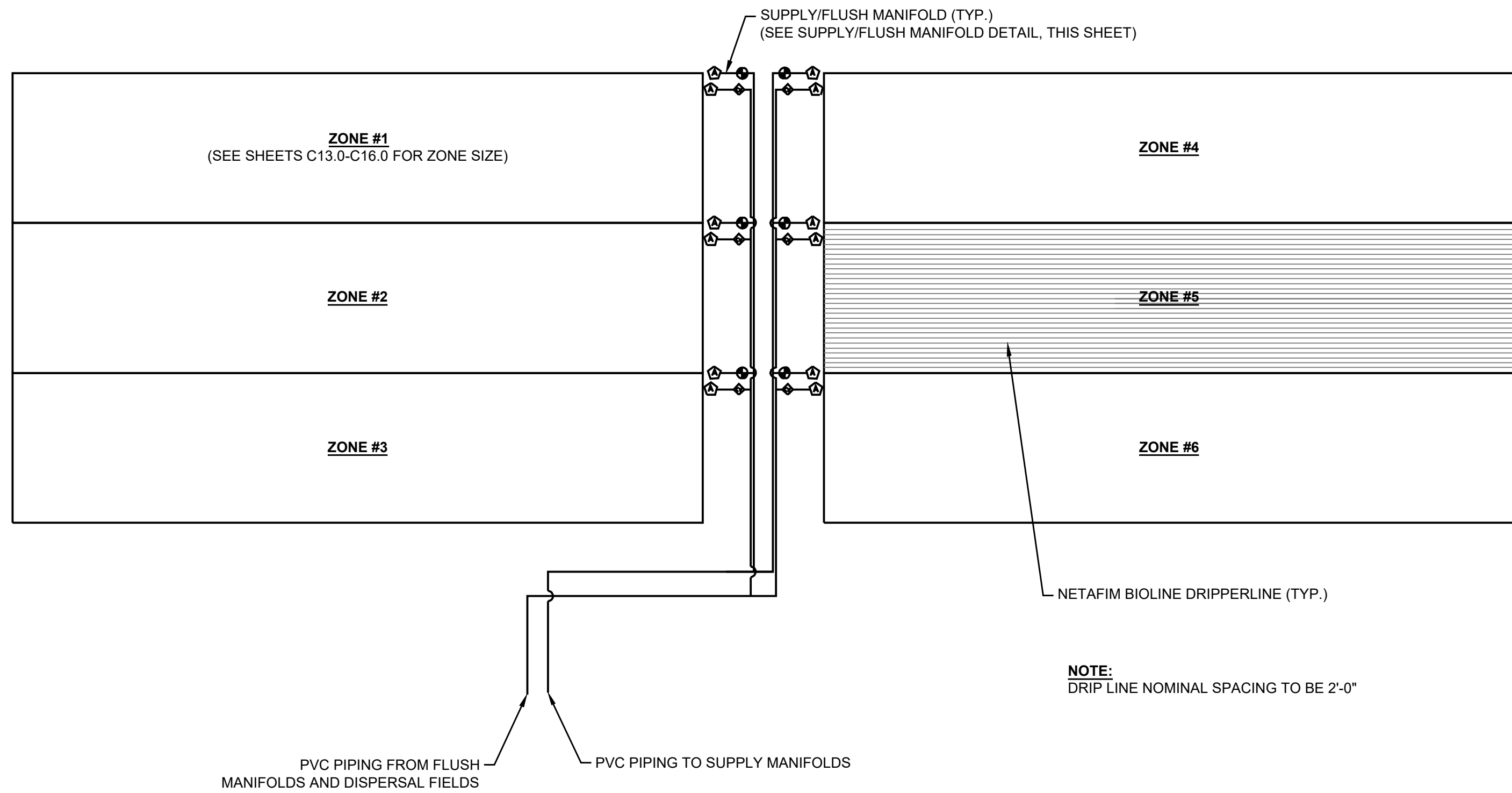
TITLE
**DRIP DISPERSAL
ENLARGED
PLAN**

DRAWING NO.
C16.0



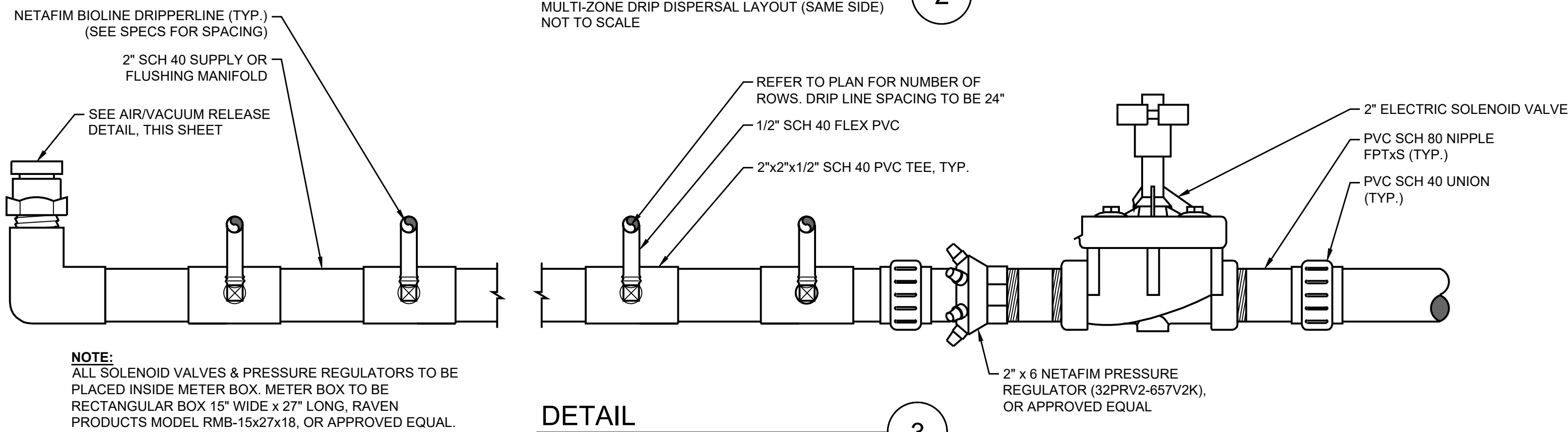
DETAIL
MULTI-ZONE DRIP DISPERSAL LAYOUT (OPPOSITE SIDE)
NOT TO SCALE

1



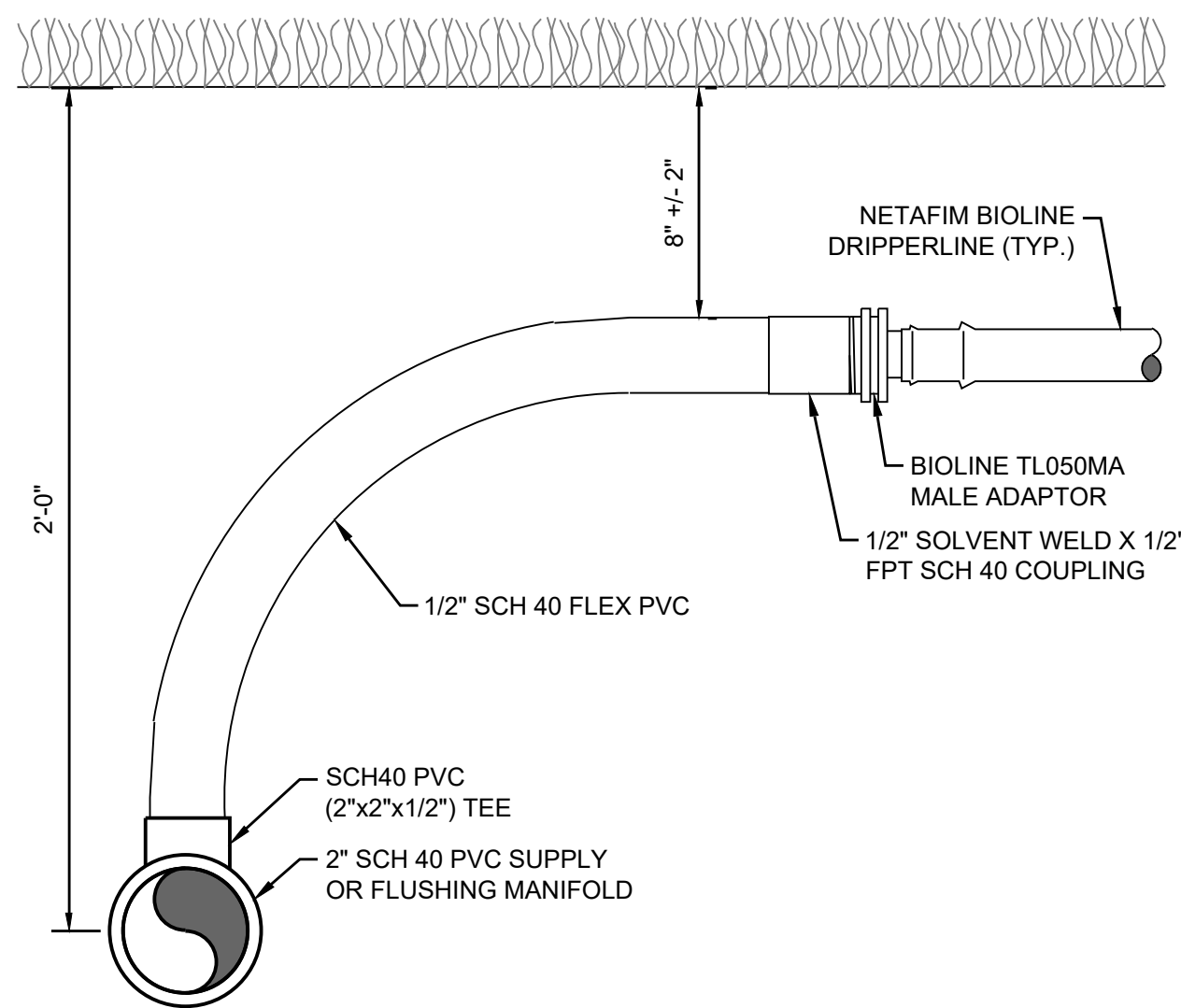
DETAIL
MULTI-ZONE DRIP DISPERSAL LAYOUT (SAME SIDE)
NOT TO SCALE

2



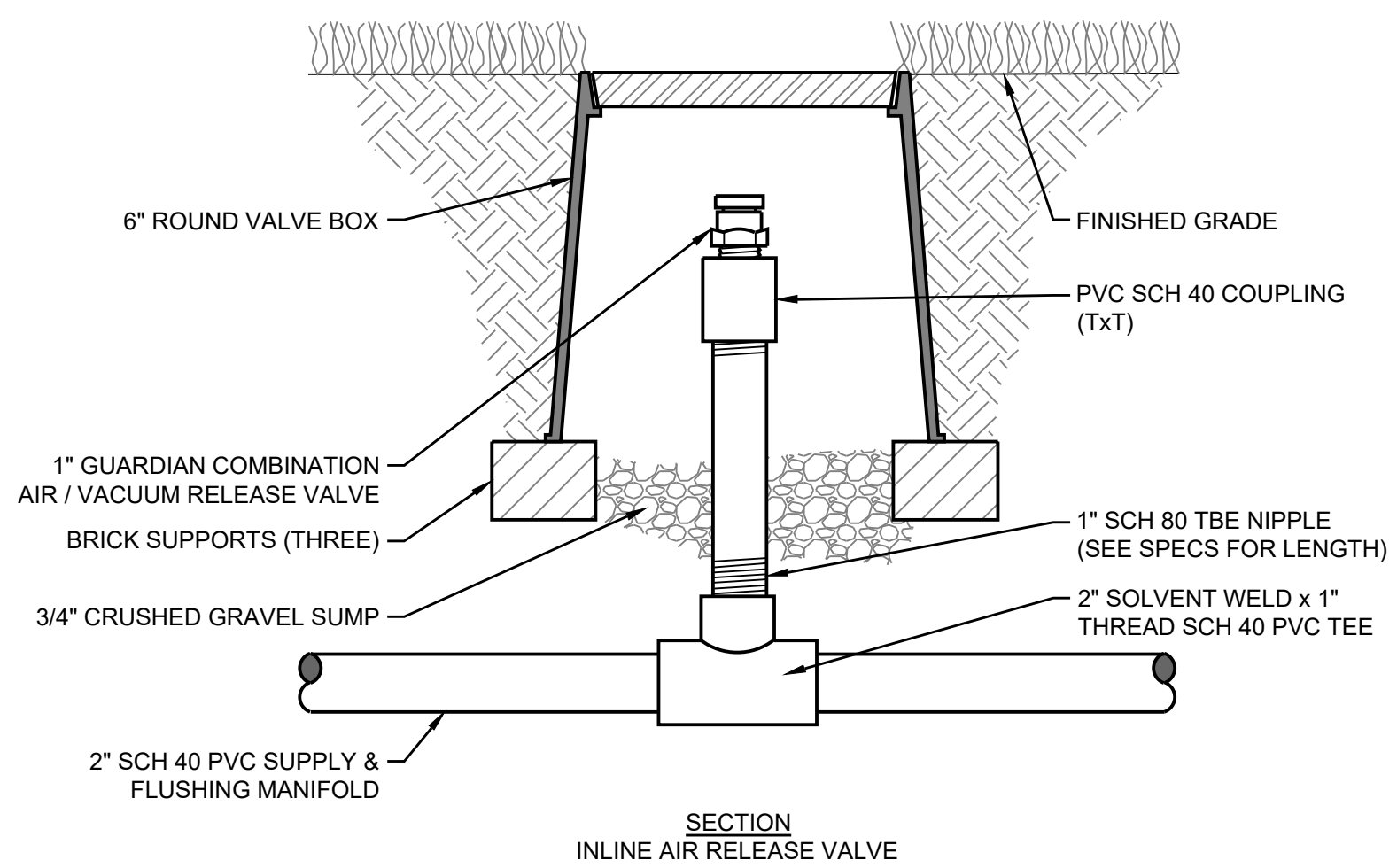
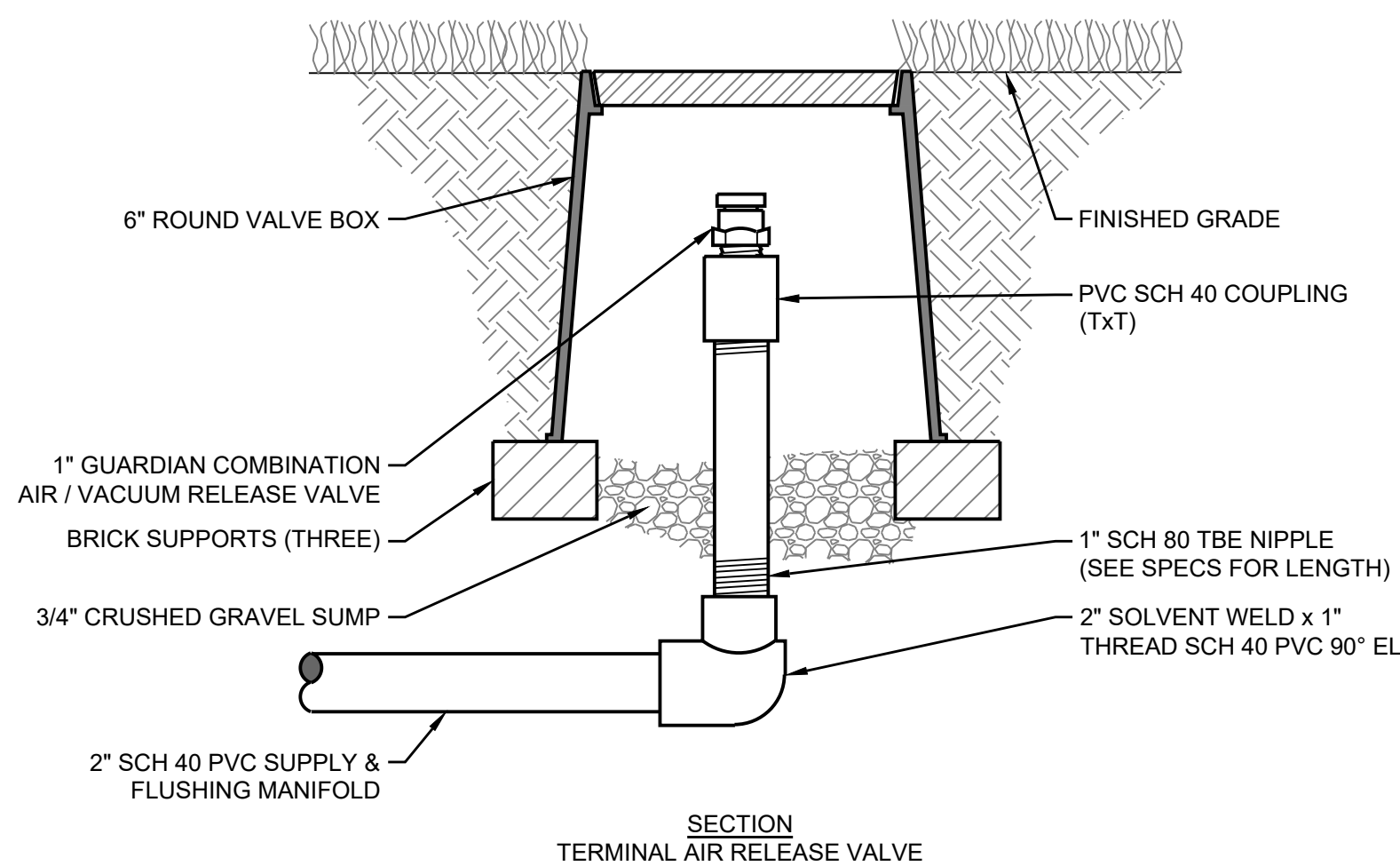
DETAIL
NETAFIM BIOLINE SUPPLY & FLUSHING MANIFOLD
NOT TO SCALE

3



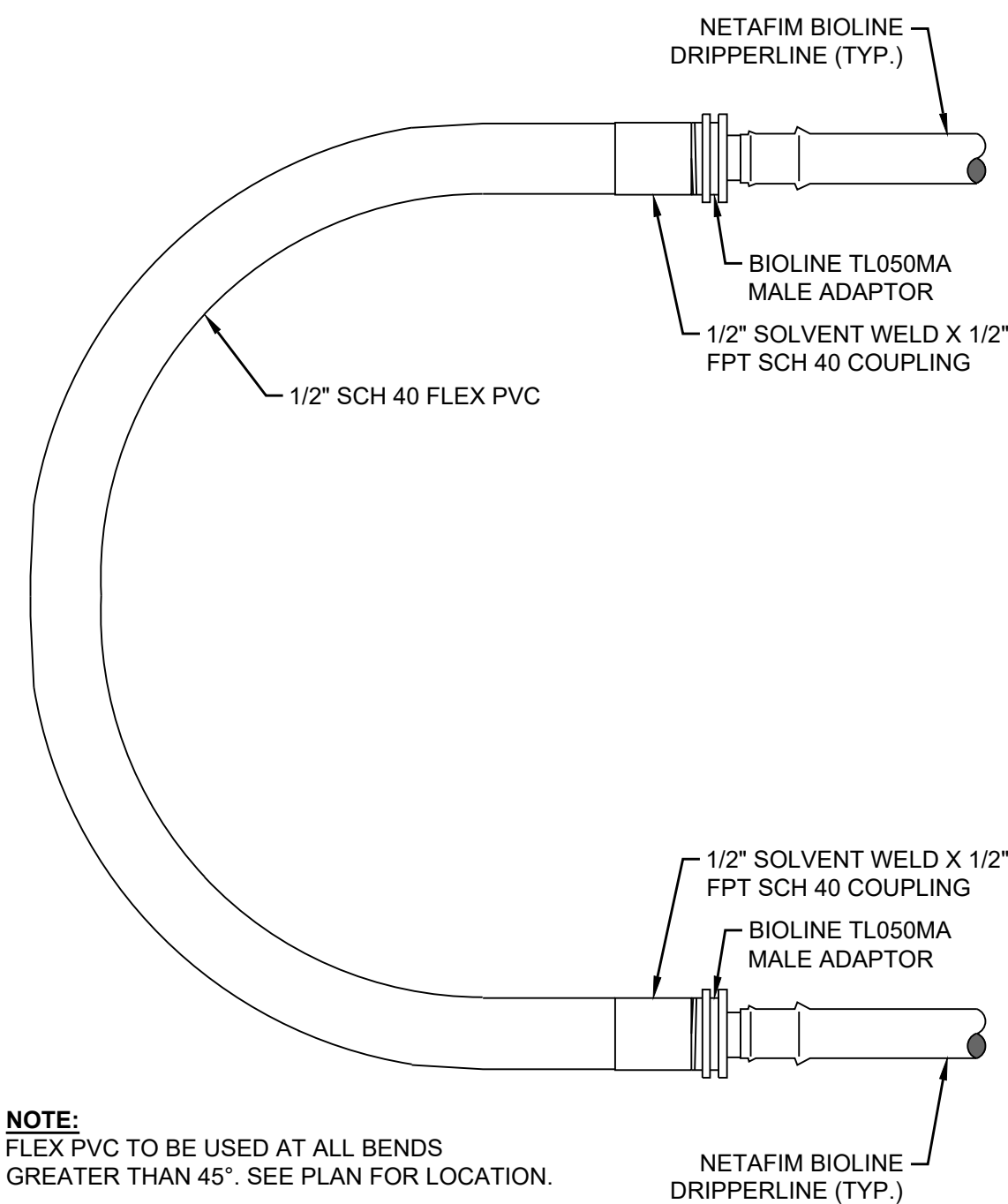
DETAIL
START CONNECTION WITH FLEX PIPE
NOT TO SCALE

4



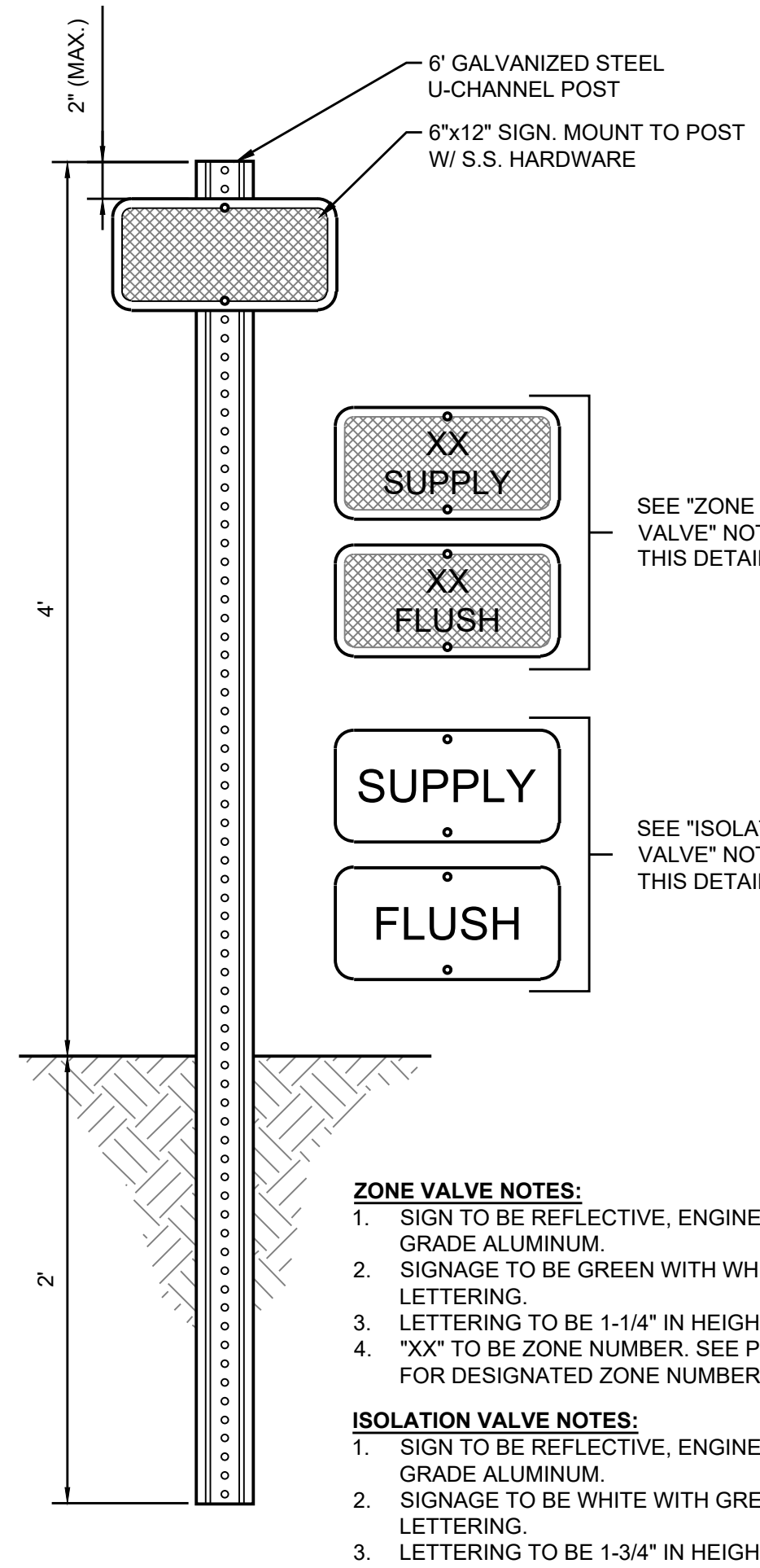
DETAIL
1/2" AIR / VACUUM RELEASE VALVE
NOT TO SCALE

5



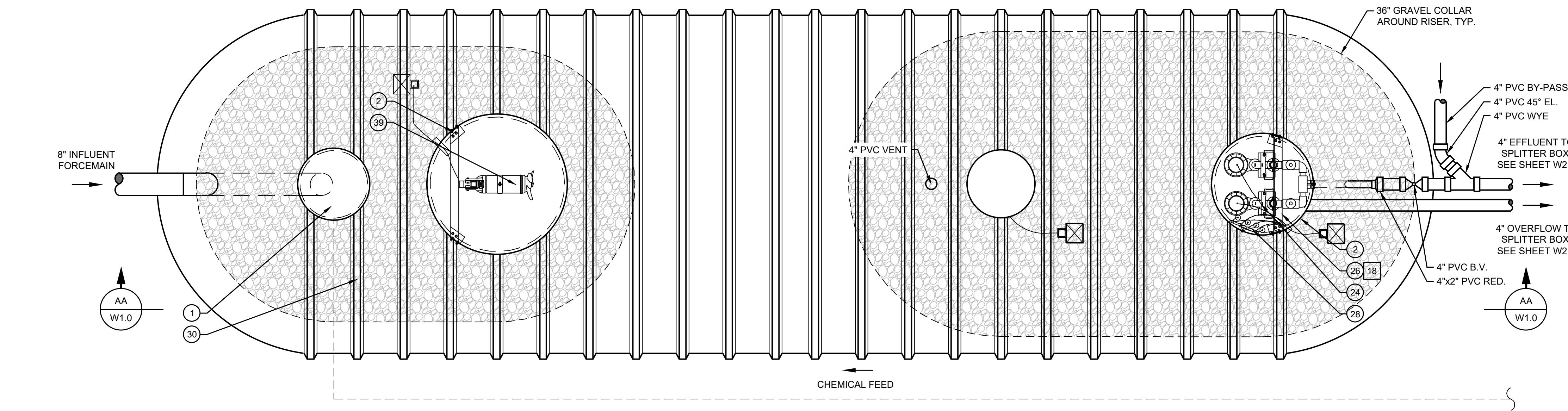
DETAIL
DRIPPERLINE BEND WITH FLEX PVC
NOT TO SCALE

6

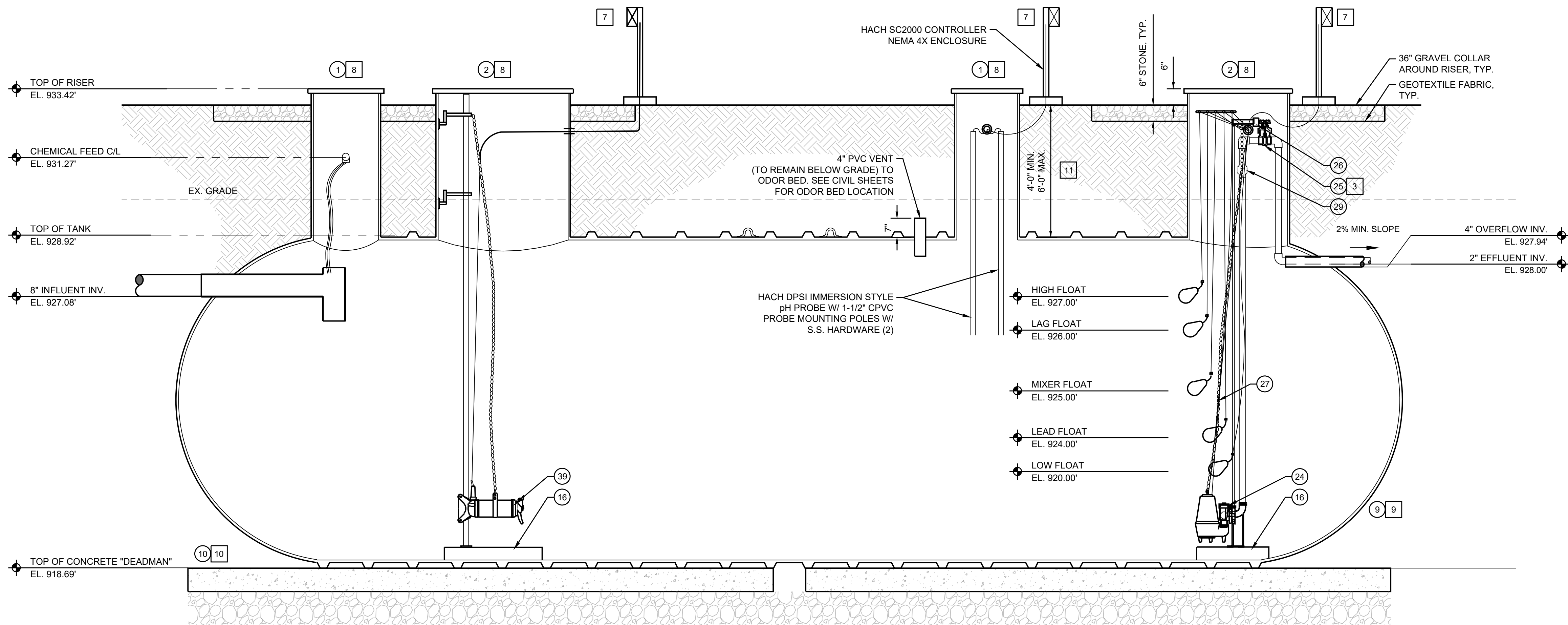


DETAIL
VALVE SIGNAGE
NOT TO SCALE

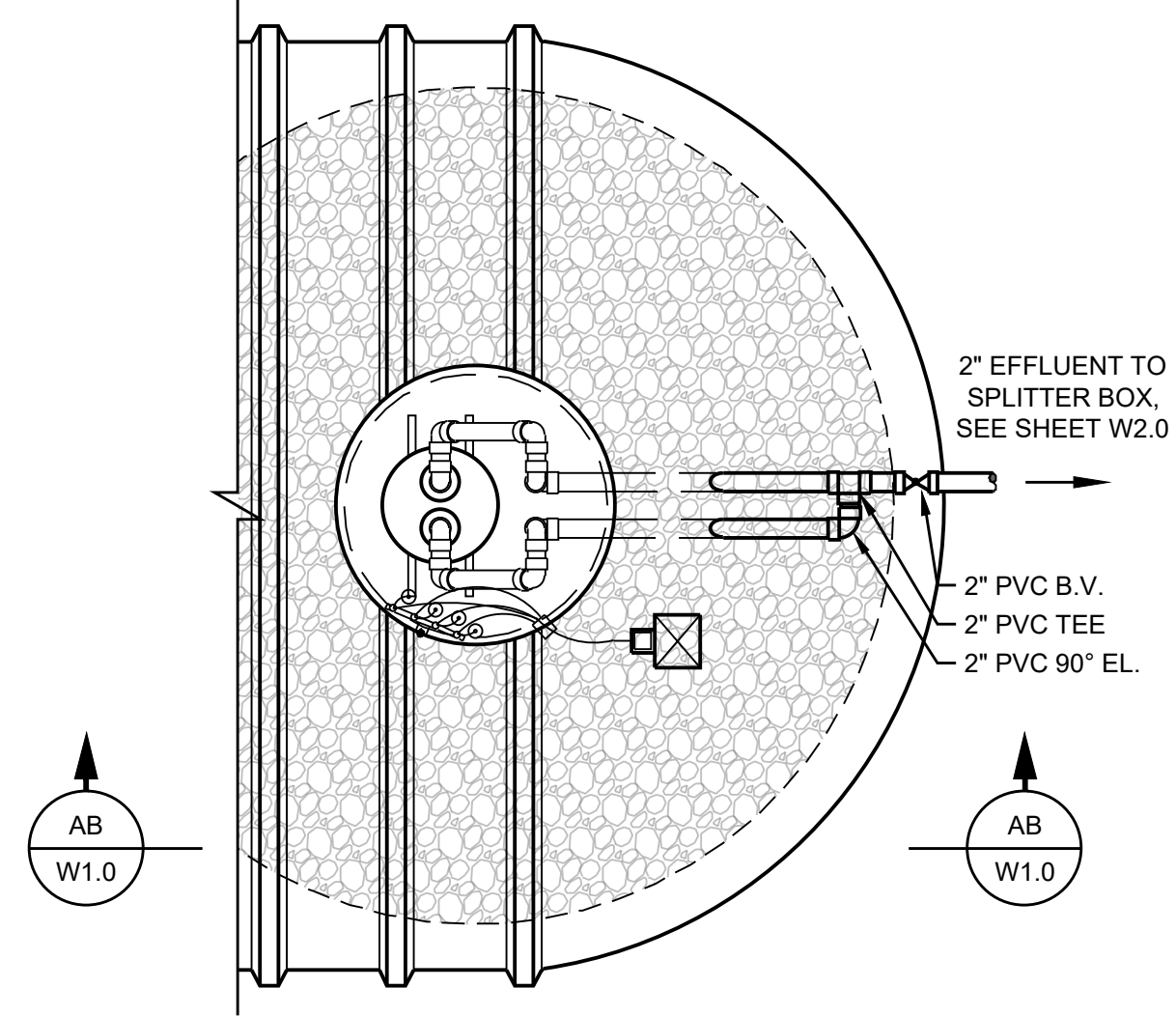
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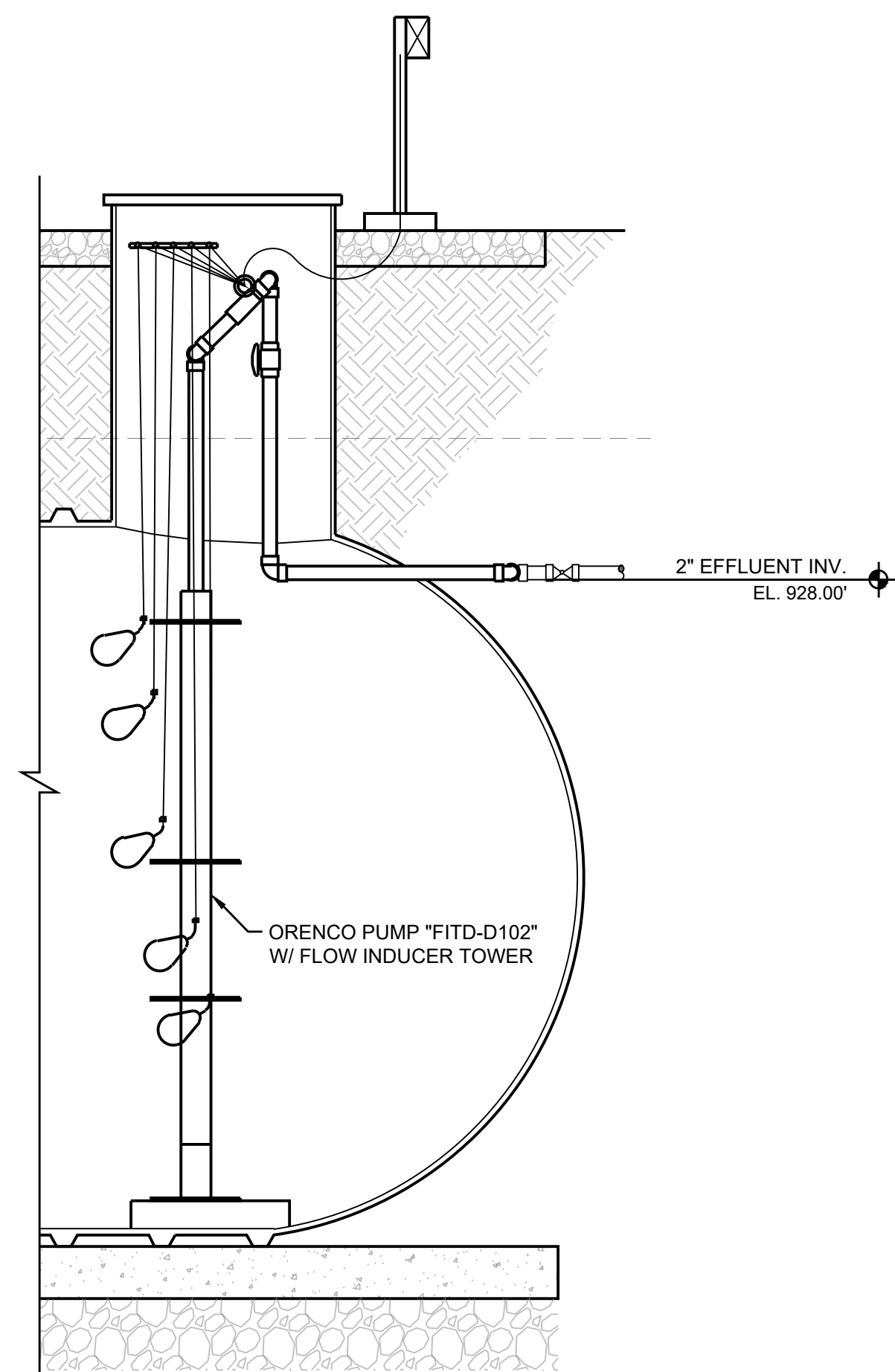
PLAN
FRP EQUALIZATION TANK - AQUAPOINT ALT.
SCALE: 1/2" = 1'-0"



SECTION
FRP EQUALIZATION TANK - AQUAPOINT ALT.
SCALE: 1/2" = 1'-0"



PLAN
FRP EQUALIZATION TANK - ORENCO ALT.
SCALE: 1/2" = 1'-0"



SECTION
FRP EQUALIZATION TANK - ORENCO ALT.
SCALE: 1/2" = 1'-0"

NOTES

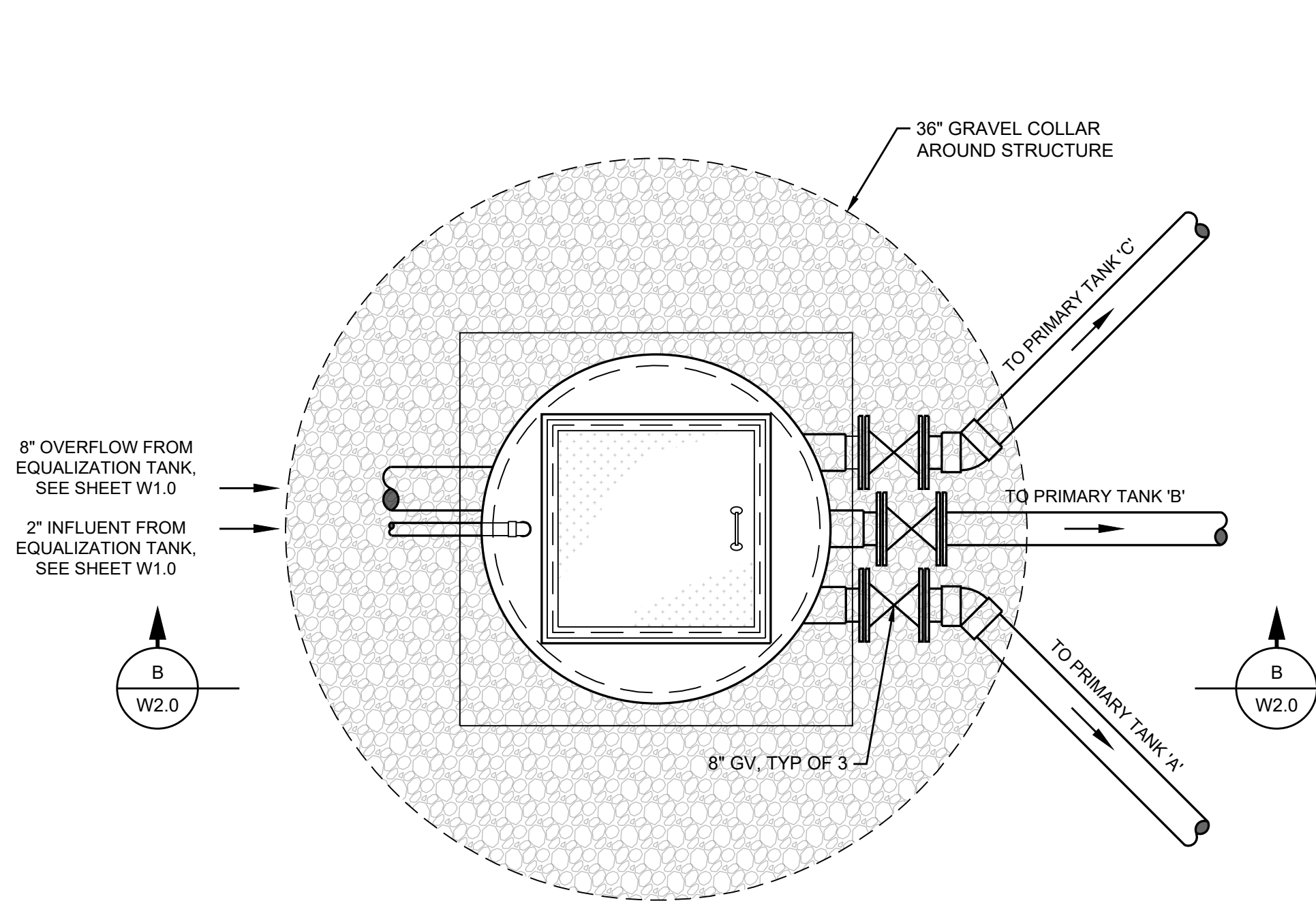
- TANK TO BE INSTALLED ON 12" LEVELED & COMPACTED CRUSHED STONE BASE.
- EQUALIZATION TANK SHALL BE USED WITH BOTH AQUAPOINT & ORENCO ALTERNATIVES.
- COORDINATE FLOAT ELEVATIONS WITH SUPPLIERS.
- SUBMERSIBLE PUMPS TO BE ORENCO PUMPS W/ INDUCER TOWERS FOR ORENCO ALTERNATIVE.

EQUIPMENT

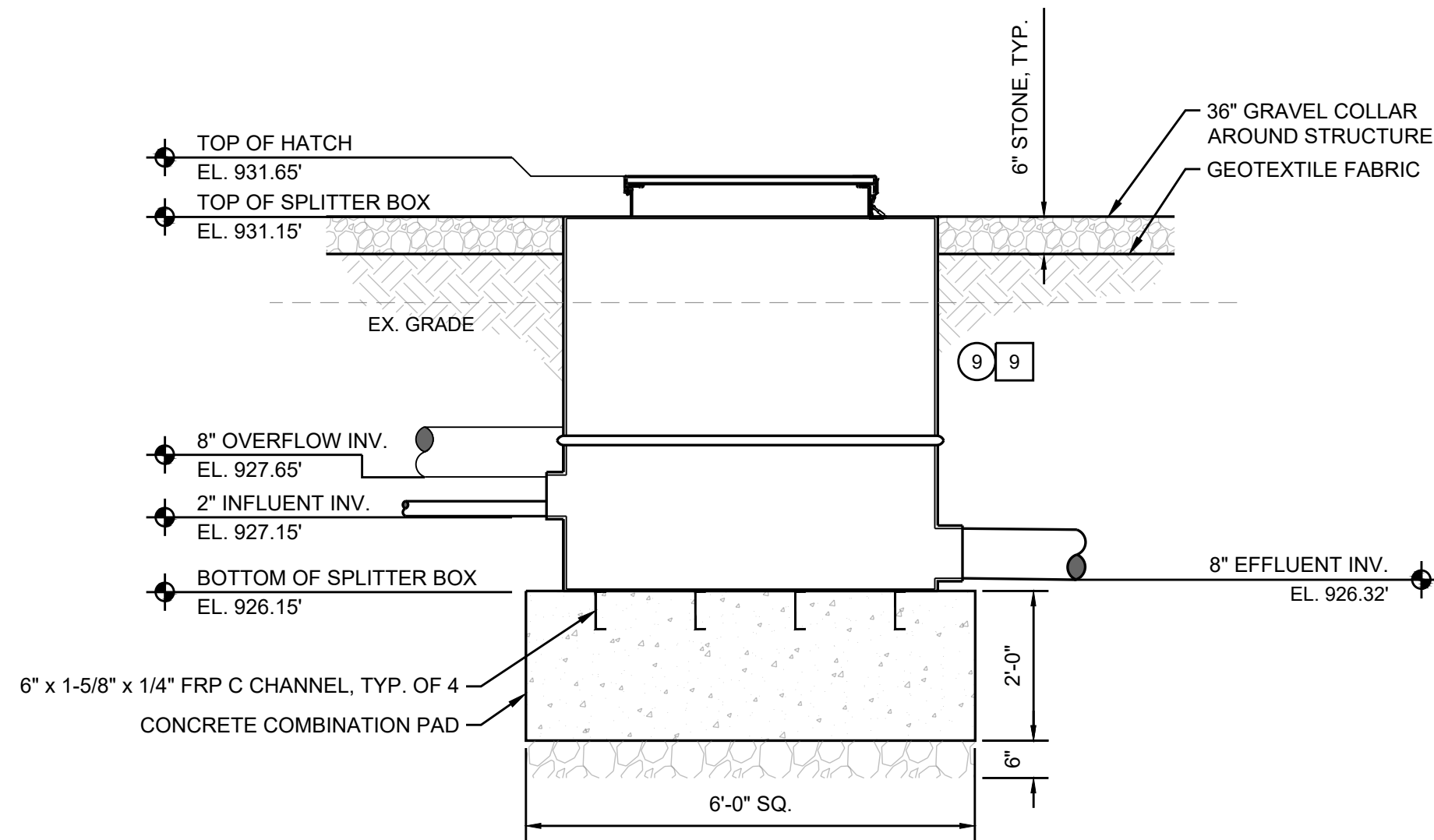
- # EQUIPMENT
- # MANUFACTURERS NOTES



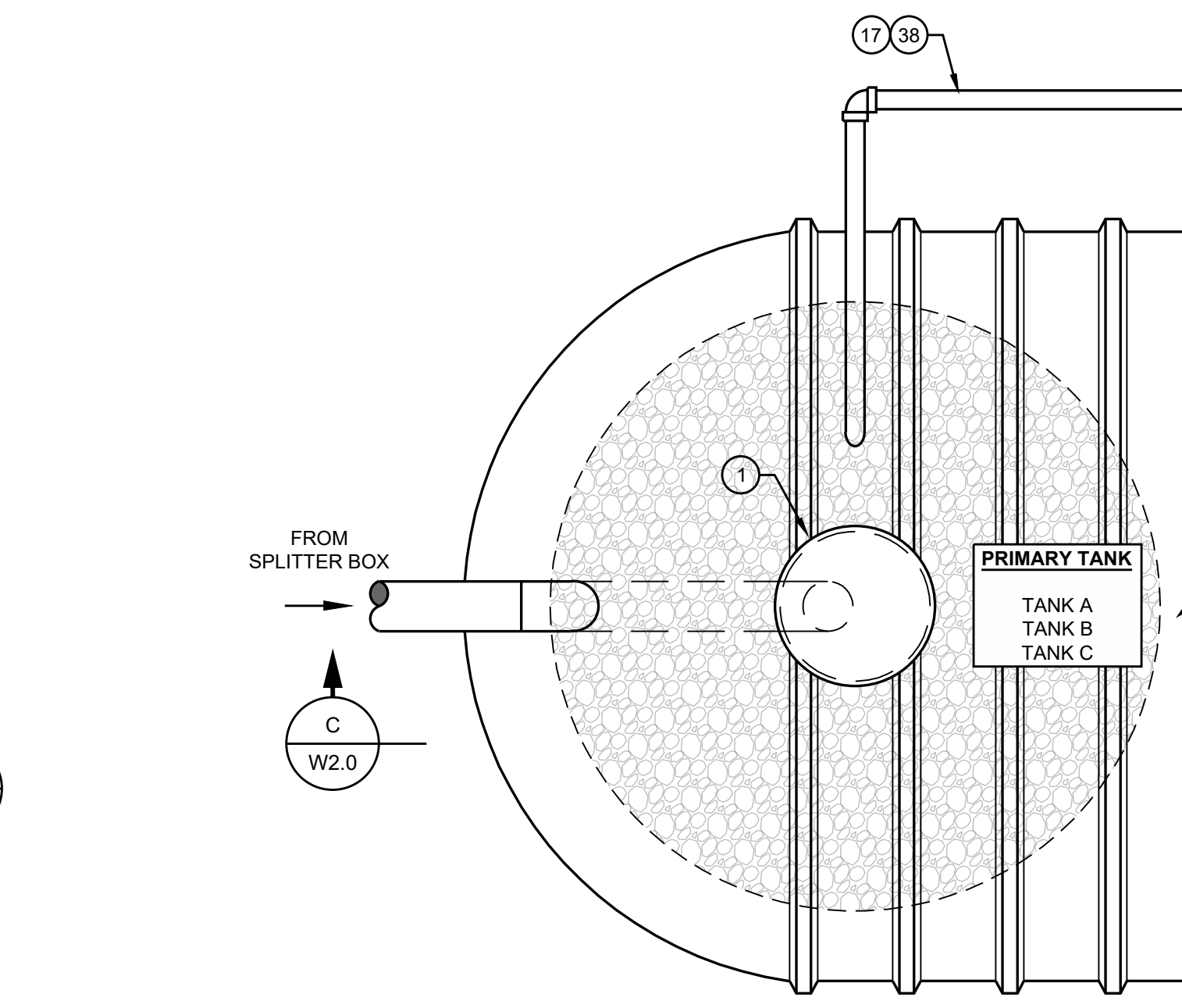
DATE	ISSUE
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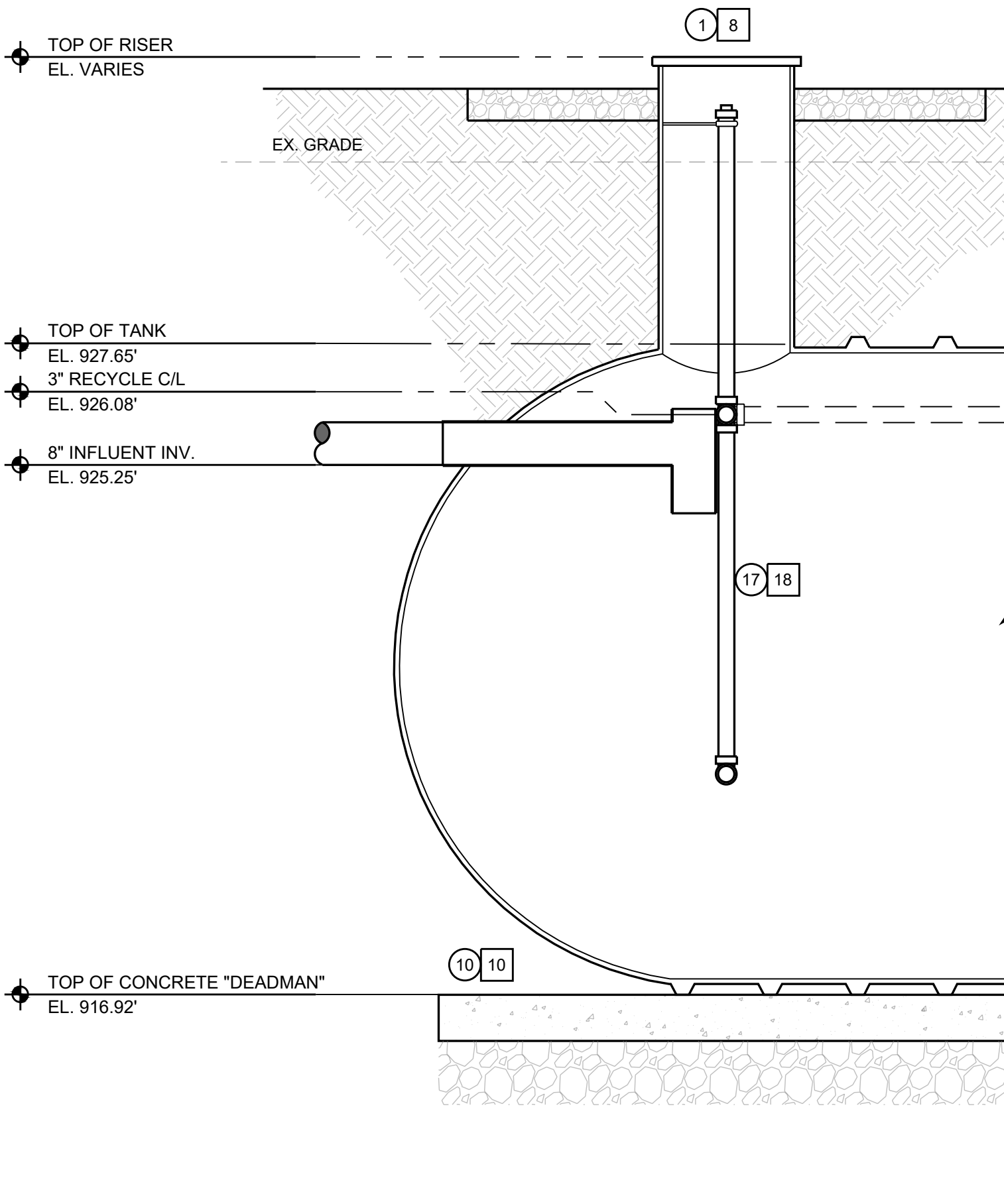
PLAN
3-WAY SPLITTER BOX
SCALE: 1/2" = 1'-0"



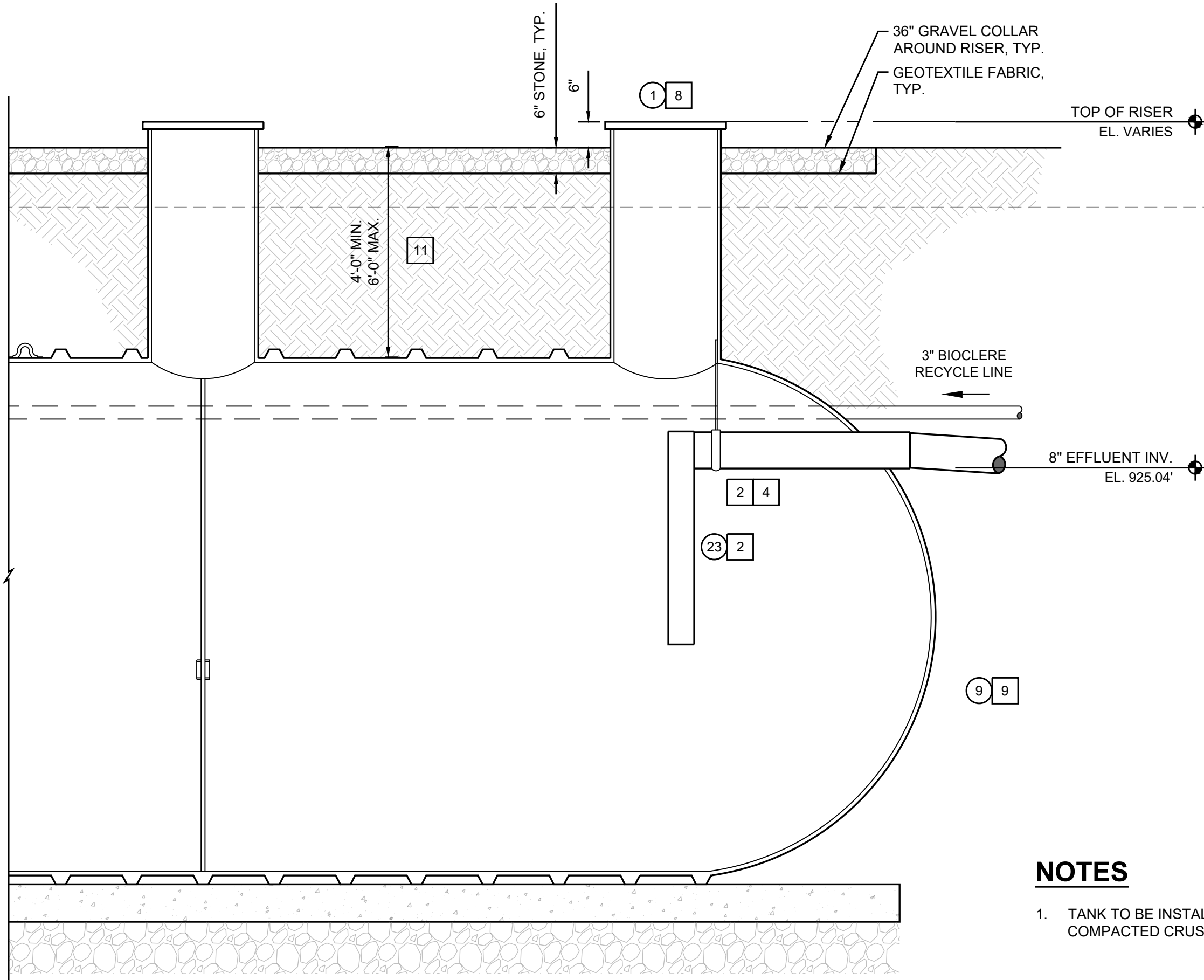
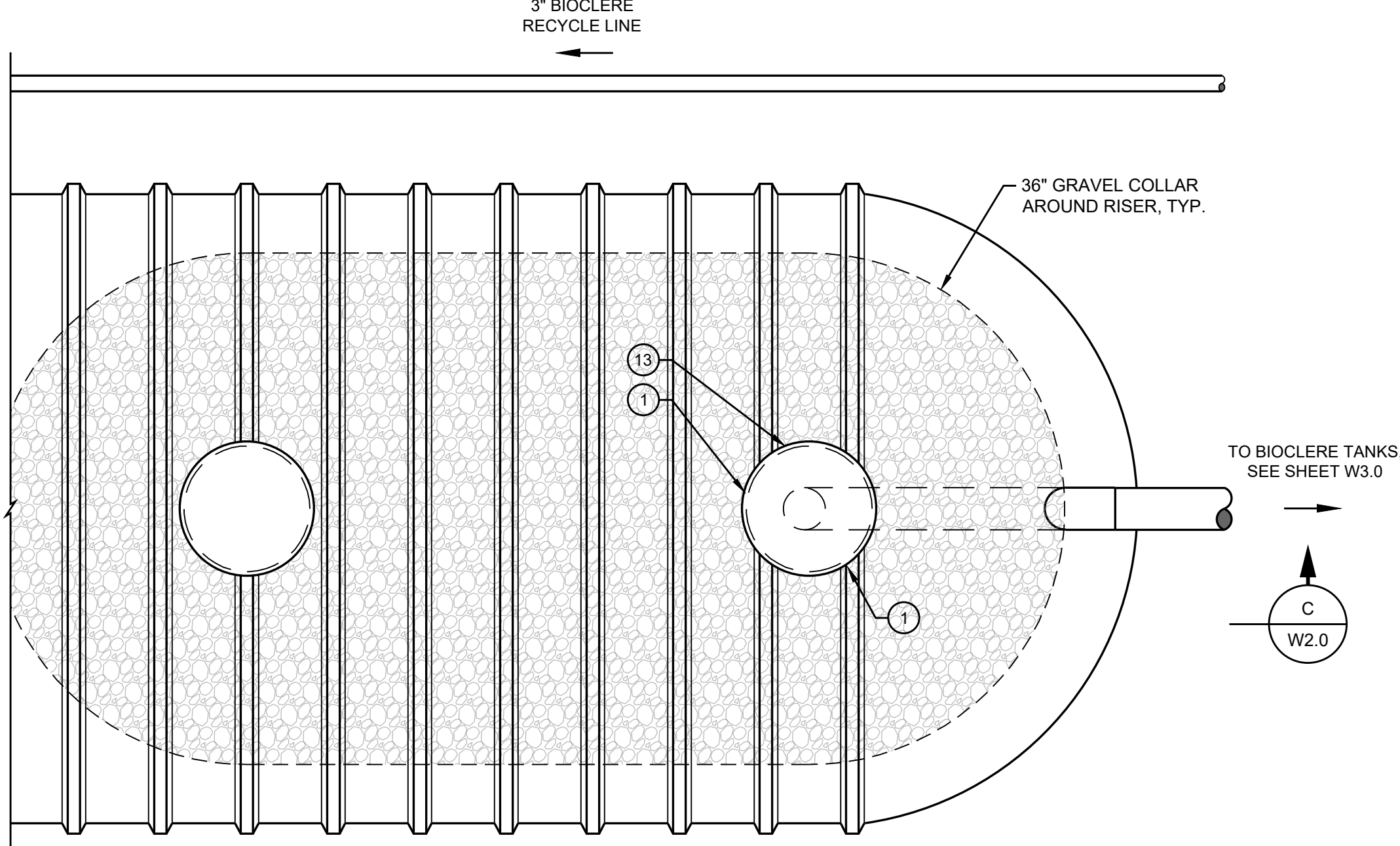
SECTION
3-WAY SPLITTER BOX
SCALE: 1/2" = 1'-0"



PLAN
PRIMARY TANK (TYP. OF 3)
SCALE: 1/2" = 1'-0"



SECTION
FRP PRIMARY TANK (TYP. OF 3)
SCALE: 1/2" = 1'-0"



NOTES

- TANK TO BE INSTALLED ON 12" LEVELED & COMPACTED CRUSHED STONE BASE.

EQUIPMENT

- EQUIPMENT
- MANUFACTURERS NOTES



DATE	ISSUE
2/26/21	IFB



SECTION

NOTES

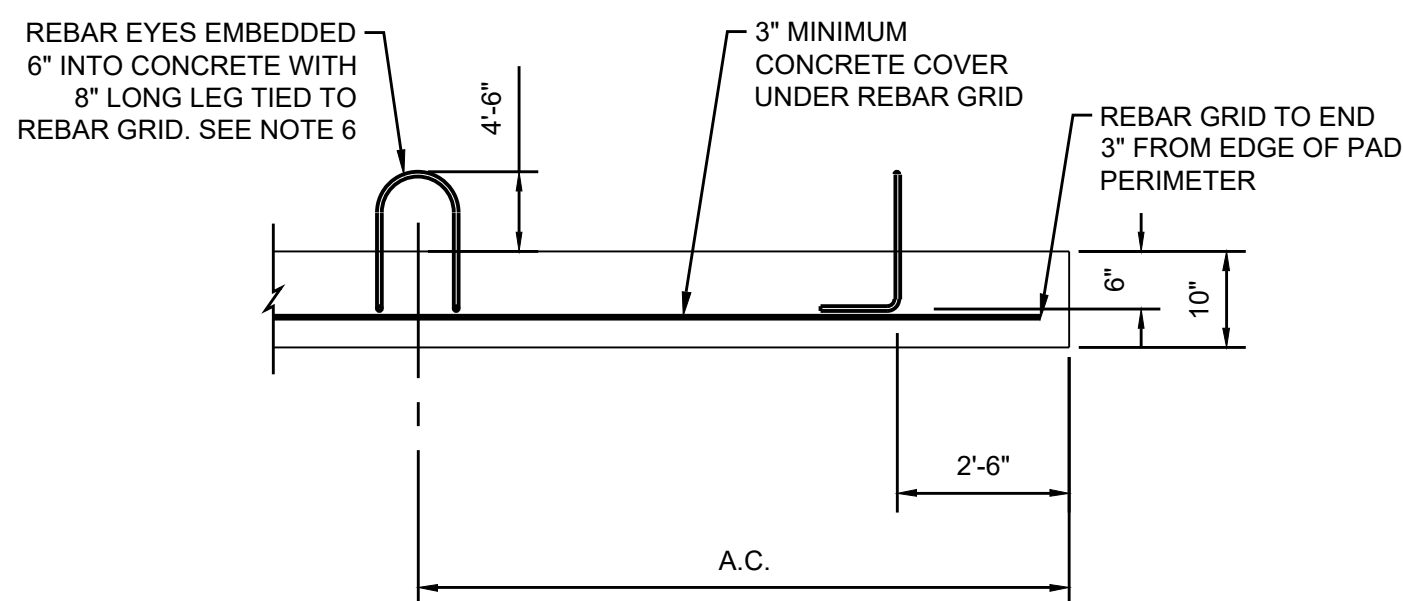
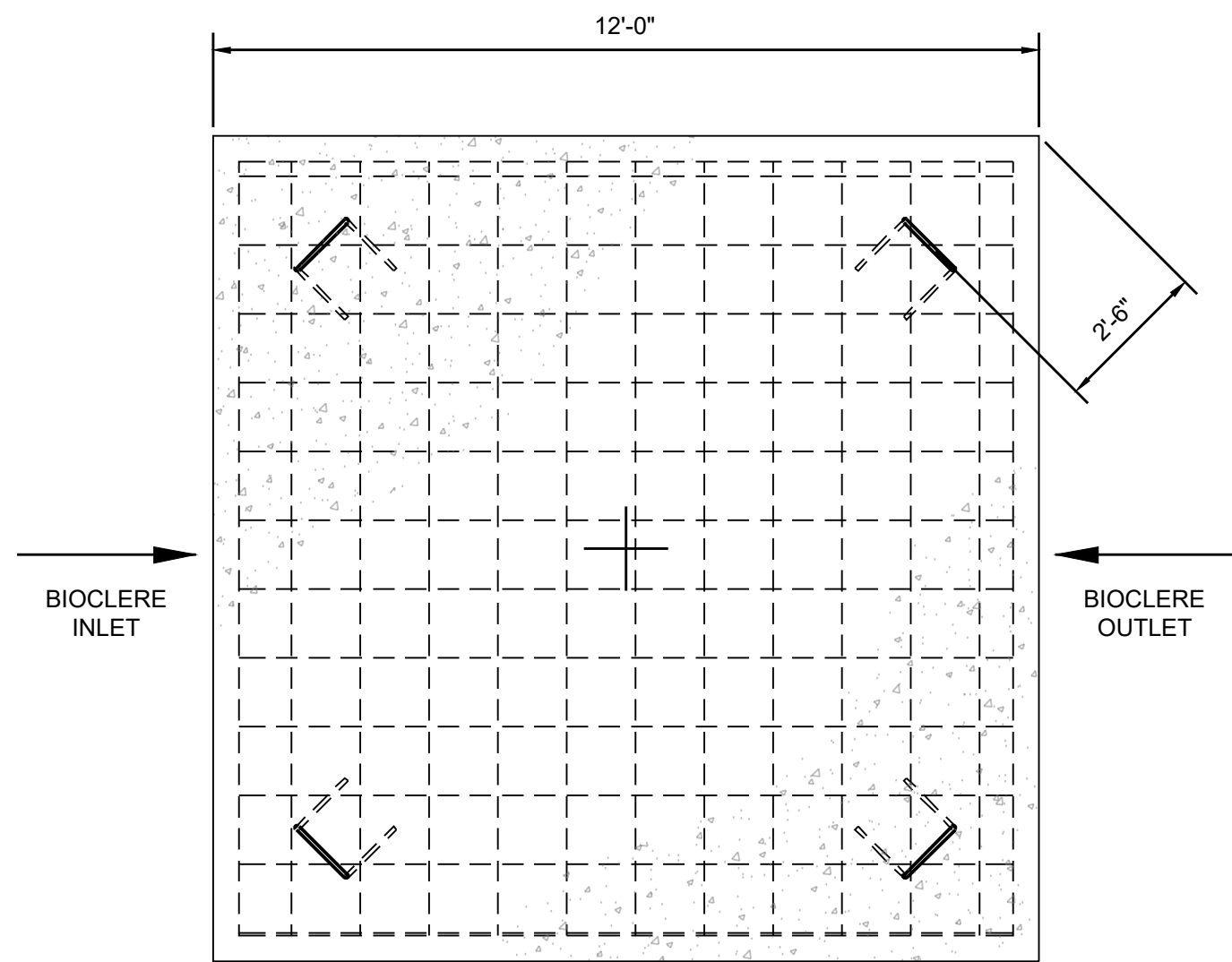
1. TANK TO BE INSTALLED ON 12" LEVELED & COMPACTED CRUSHED STONE BASE.

EQUIPMENT

- # EQUIPMENT

MANUFACTURERS NOTES

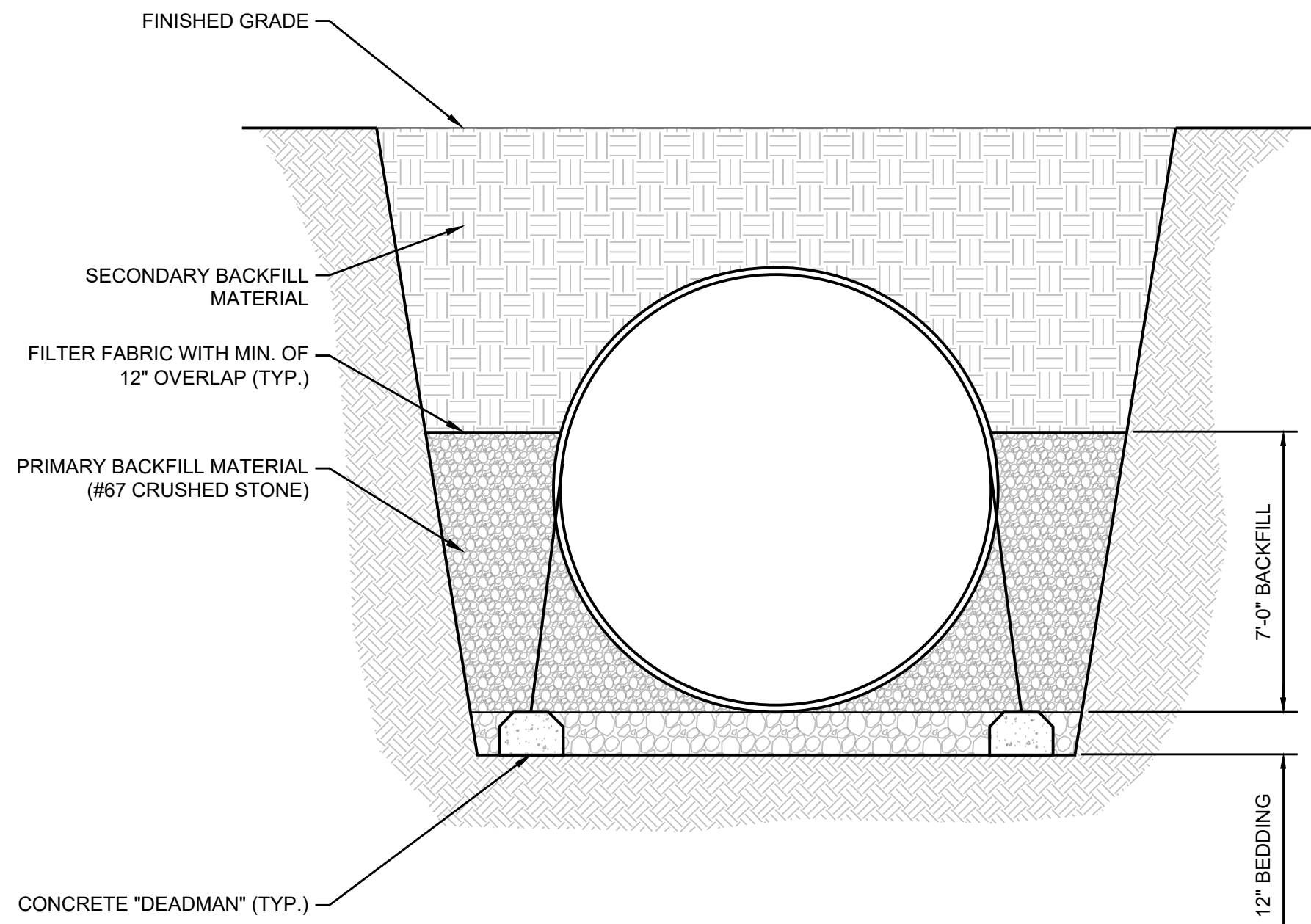




DETAIL

PRECAST BIOCLERE MOUNTING PAD
NOT TO SCALE

1



DETAIL

HORIZONTAL FRP TANK BEDDING & BACKFILL
NOT TO SCALE

2

FRP PROCESS TANK COMPONENTS

- 24" DIAMETER ACCESS RISER (TYP.)
- 36" DIAMETER ACCESS RISER (TYP.)
- ~~24" OR 36" DIAMETER ACCESS RISER (TYP.)~~
- ~~CARBON FEED CONDUIT (IF SPECIFIED)~~
- ~~DROP LEG & VALVE ASSEMBLY (PNEUMATIC)~~
- ~~4" PVC VENT~~
- ~~STAINLESS STEEL MEDIA RETENTION SCREEN~~
- ~~NEUTRALLY BOUYANT HDPE BIOFILM CARRIER ELEMENTS (MEDIA)~~
- BACKFILL
- CONCRETE DEADMEN
- COMPACTED GRANULAR BASE
- ~~NITRATE RECYCLE PUMP & RAIL ASSEMBLY~~
- FRP BAFFLE WALL WITH 4 CENTER LINE 4" HOLES (TYP.)
- ~~FRP AERATION GRID SUPPORT PLATFORM~~
- ~~FRP HYDROSTATIC BAFFLE WALLS~~
- FRP PUMP PLATFORM
- NITRATE RECYCLE LINE
- ~~ANOXIC SLUDGE PUMP & RAIL ASSEMBLY~~
- ~~AERATION MANIFOLD & SPARGER LATERALS~~
- ~~TOP MOUNTED MIXER ON PEDESTAL MOUNT~~
- ~~AERATION HEADER MANIFOLD~~
- ~~48" DIAMETER ACCESS RISER (TYP.)~~
- EFFLUENT ASSEMBLY
- EQUALIZATION PUMPS & RAIL ASSEMBLIES
- THROTTLING VALVE (HYDRAULIC)
- FRP SUPPORT BRACKET W/ HARDWARE
- STAINLESS STEEL LIFTING CHAIN
- STAINLESS STEEL FLOAT BRACKET
- CHECK VALVE (HYDRAULIC) (BY CONTRACTOR)
- ALKALINITY FEED CONDUIT
- ~~SUBMERSIBLE ASPIRATOR~~
- ~~ASPIRATOR INTAKE~~
- ~~36" DIAMETER ACCESS RISER (TYP.)~~
- ~~2" AEROBIC MBBR INLET ASSEMBLY~~
- ~~FRP BAFFLE WALL~~
- ~~2" ANOXIC MBBR INLET ASSEMBLY~~
- ~~FINAL PUMP & RAIL ASSEMBLY~~
- SLUDGE RECYCLE LINE
- SUBMERSIBLE MIXER

BIOCLERE TANK NOTES:

- SEE BIOCLERE UNIT DRAWING FOR VENT SIZE. VENT MAY BE RUN UP TO THE ROOF OF THE BUILDING.
- IF INSTALLED IN GROUND WATER CONTACT SITE ENGINEER FOR ANCHORING AND CONCRETE BALLAST REQUIREMENTS.
- CONTRACTOR IS TO SUPPLY ALL CONCRETE STRUCTURES AND PERFORM INSTALLATION.
- SURROUND ENTIRE BIOCLERE UNIT (BELOW GRADE) WITH CLEAN SAND OR 3/8" PEA STONE.
- BIOCLERE AND OTHER PLANT ELECTRICAL CABLES NOT SHOWN.
- SEE BIOCLERE UNIT DRAWING FOR RECYCLE LINE SIZE AND REQUIREMENTS.
- IF BIOCLERE RECYCLE LINE IS NOT PITCHED TOWARD PRIMARY TANK AND WITHIN THE FROST LINE, THE RECYCLE LINE IS TO BE INSULATED TO PREVENT FREEZING.
- SEE BIOCLERE CONCRETE PAD SEPERATE DETAIL DRAWING.

PROCESS TANK NOTES:

- TANK DEPICTED IS MEANT TO BE A GENERAL CONFIGURATION. ACTUAL TANK LENGTH, DIAMETER AND RISER LOCATIONS MAY VARY DEPENDING ON REQUIREMENTS.
- EFFLUENT ASSEMBLY (FILTERS OR TEE) TO BE SIZED TO ACCOMODATE ALL FORWARD FLOWS AND RECYCLED FLOWS.
- THROTTLING VALVE(S), LIFTING CHAINS AND PIPING UNIONS (IF APPLICABLE) TO BE LOCATED 16" (MAX) FROM TOP OF RISER.
- SEE WWTP SYSTEM HYDRAULIC PROFILE FOR INVERT AND FLOAT ELEVATIONS.
- CHEMICAL FEEDS SHOWN, ARE "IF SPECIFIED".
- CONSULT AQUAPOINT TECHNICAL MANUAL FOR EQUIPMENT AND ELECTRICAL DETAILS.
- CONSULT AQUAPOINT CONTROL PANEL'S FIELD WIRING DIAGRAM (SHIPPED IN PANEL) FOR REQUIREMENTS.
- TANK RISER LENGHTS TO BE DETERMINED AND INSTALLED SEPERATELY. FOLLOW ALL FRP TANK INSTALLATION INSTRUCTIONS.
- FOR INSTALLATION AND BACKFILLING INSTRUCTIONS CONSULT AND ADHERE TO THE FRP TANK MANUAL.
- IF INSTALLED IN SEASONAL GROUNDWATER CONTACT ENGINEER TO SPECIFY ANCHORING & CONCRETE DEADMAN REQUIREMENTS.
- MAXIMUM OVERBURDEN NOT TO EXCEED 6' WITHOUT WRITTEN AUTHORIZATION FROM THE MANUFACTURER.
- AQUACELL PROCESS REACTOR(S) MUST BE PRECEDED BY PRIMARY SETTLING OR SCREENING AND FOLLOWED BY SECONDARY CLARIFICATION.
- ~~FIELD AIR PIPING SHALL BE SCHD 80 CPVC, GALVANIZED OR STAINLESS STEEL, BY CONTRACTOR, (IF APPLICABLE)~~
- FRP SLIDE RAIL SUPPORT, SHIPPED LOOSE WITH HARDWARE, INSTALLED BY CONTRACTOR, (IF APPLICABLE)
- SIZE AND QUANTITY OF MIXERS WILL DEPEND ON TANK SIZE AND GEOMETRY. (IF APPLICABLE)
- TANK RISER ABOVE MIXER MUST BE TALL ENOUGH FOR MIXER BASE, MIXER ASSEMBLY AND SUITABLE HEADSPACE. (IF APPLICABLE)
- STANDARD PUMPED INLET ASSEMBLY CONFIGURATION SHOWN, SEE DETAIL. SEE TECHNICAL MANUAL FOR ANY JOB SPECIFIC REQUIREMENTS. IF FLOW BY GRAVITY, INFLUENT STRUCTURE TO BE A SUITABLE SIZED PIPE & INLET TEE, WITH INVERT 6" (MIN) ABOVE WATER LEVEL.
- SCH. 80 PVC PIPING INSIDE TANK. SEE SEPERATE DRAWING(S) FOR DETAILS.

PROCESS TANK #1 ELEVATIONS

• FINISH GRADE (FGT1):	932.92
• INVERT IN (I.I.):	927.08
• INVERT OUT (I.O.):	928.00
• TANK BASE (TB1):	918.69

EQ FLOATS:

• HIGH FLOAT (HF):	927.00
• LAG FLOAT (LA):	926.00
• LEAD FLOAT (LE):	924.00
• LOW FLOAT (LF):	920.00

EQ PUMPS:

- SEE SPECS

EQ MIXER:

- SEE SPECS

FRP SPLITTER BOX ELEVATIONS

• FINISH GRADE (SFG):	931.15
• INVERT IN (SBI):	927.15
• INVERT OUT (SBO):	926.32

NOTE: SBI - SBO = 12"

PROCESS TANK #2 ELEVATIONS

• FINISH GRADE (FGT2):	VARIABLE
• TANK INVERT IN (I.I.):	925.25
• TANK INVERT OUT (I.O.):	925.04
• TANK BASE (TB2):	916.92

BIOCLERE #1 ELEVATIONS

• FINISH GRADE (B1FG):	VARIABLE
• INVERT IN (B1I):	924.41
• INVERT OUT (B1O):	924.16
• BIOCLERE BASE (B1BB):	915.66

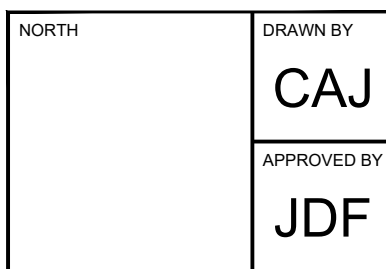
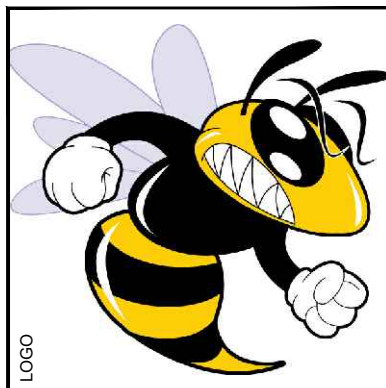
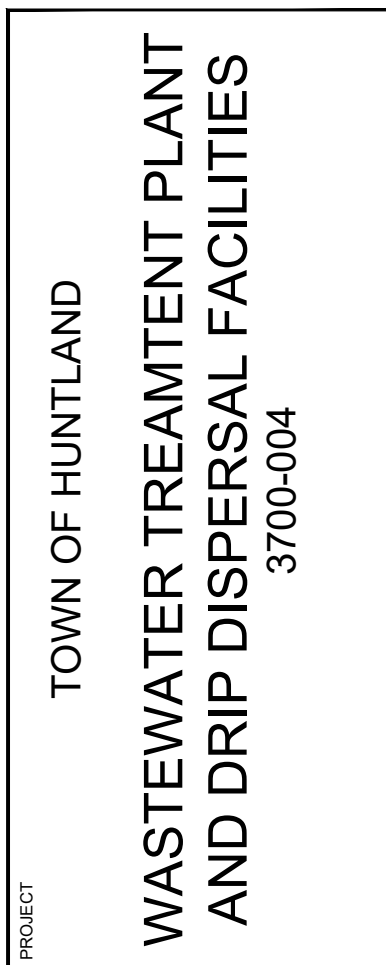
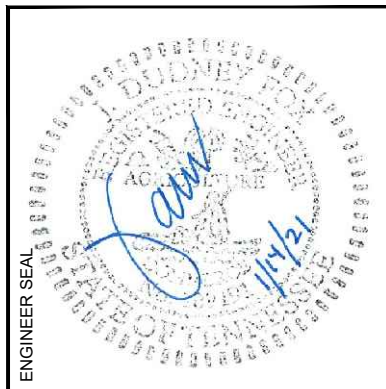
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BIOCLERE #2 ELEVATIONS

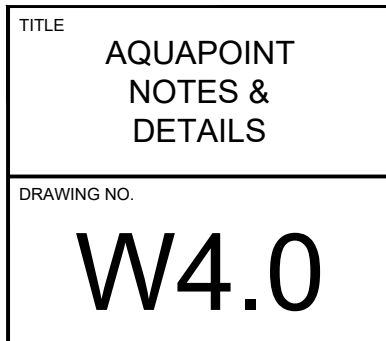
• FINISH GRADE (B2FG):	VARIABLE
• INVERT IN (B2I):	924.16
• INVERT OUT (B2O):	923.91
• BIOCLERE BASE (B2BB):	915.41

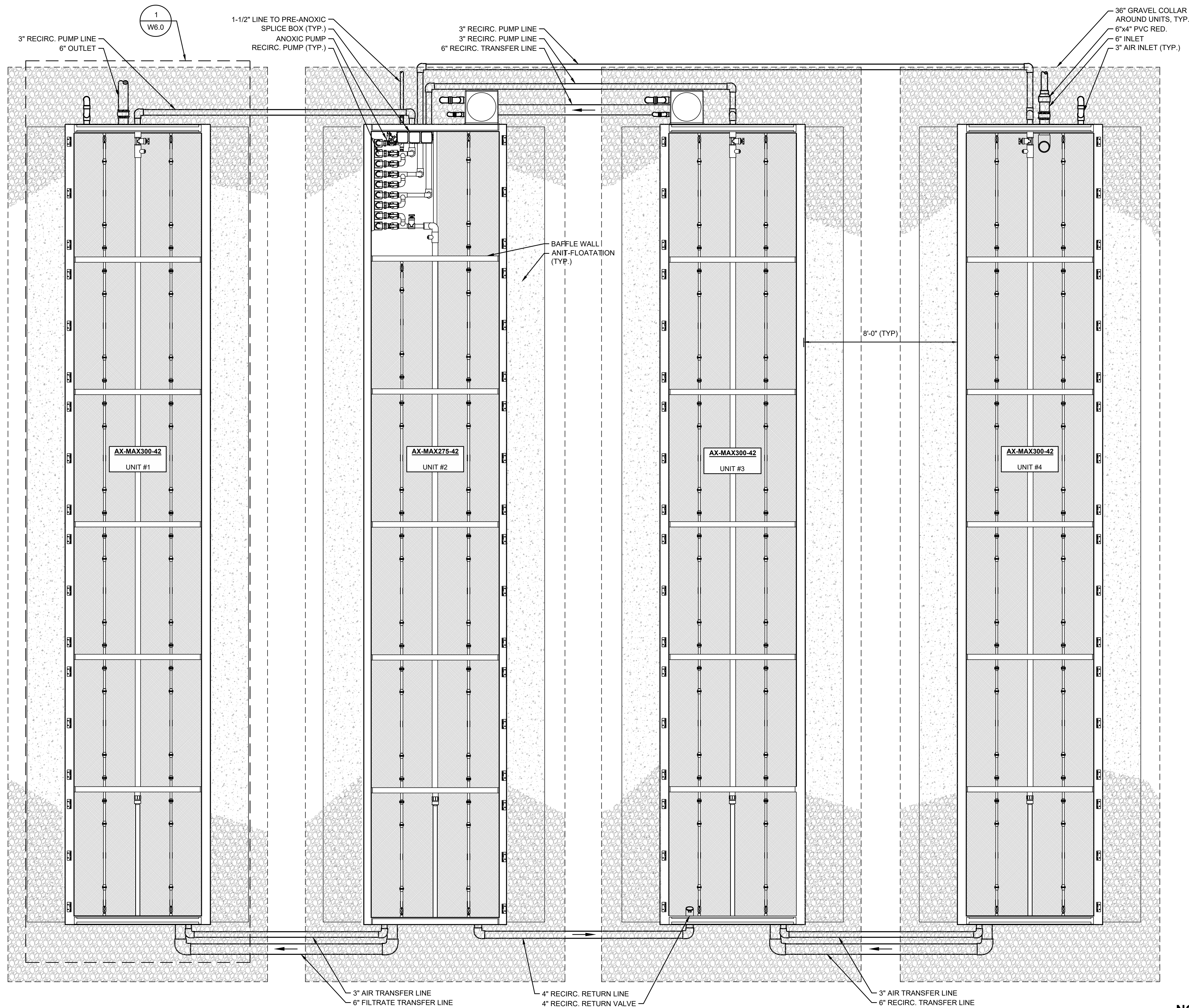
(TOP OF CONCRETE PAD)

NOTE: REFER TO BIOCLERE CONTROL PANEL DRAWING FOR BIOCLERE PUMP INFORMATION.



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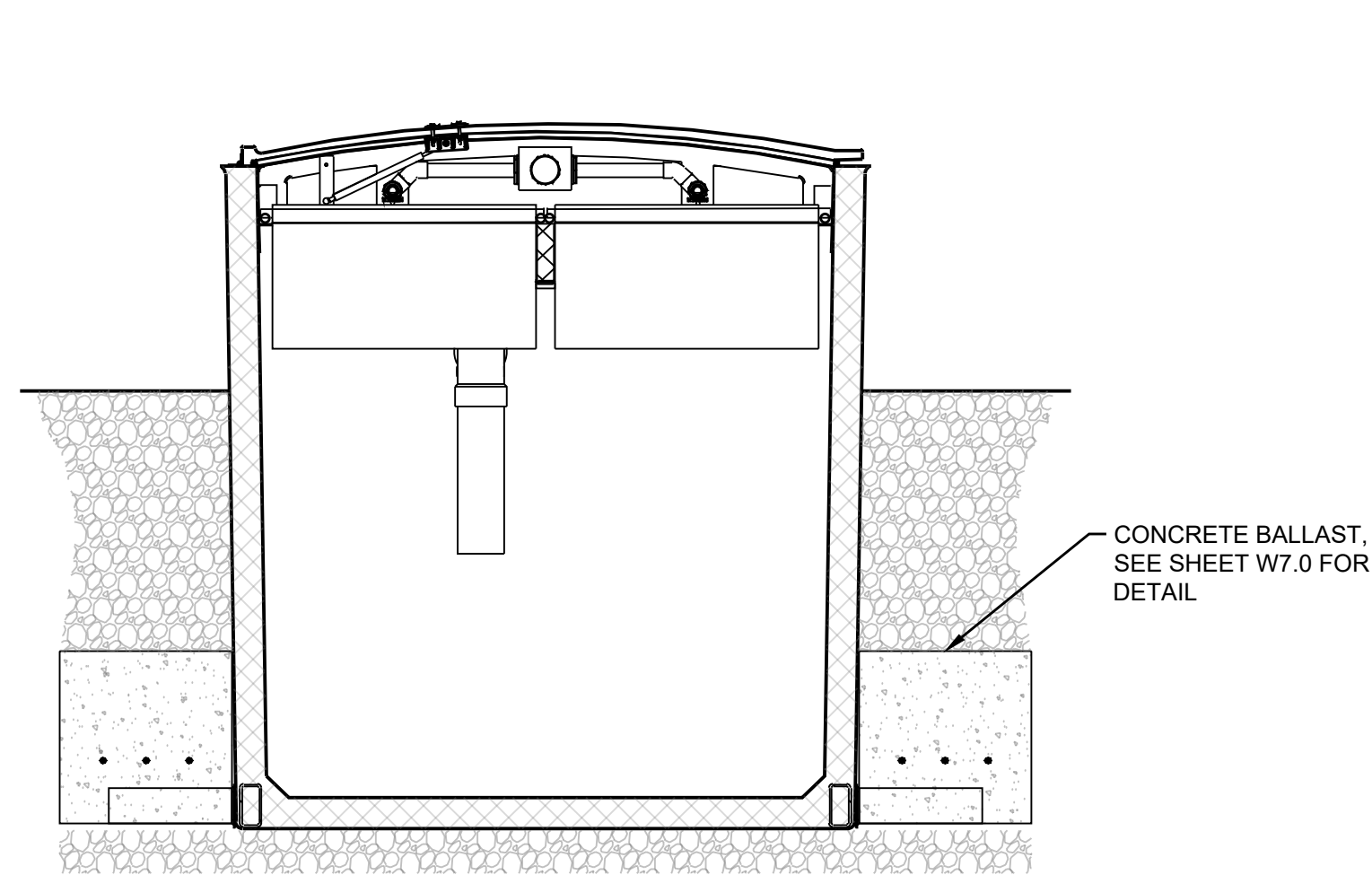
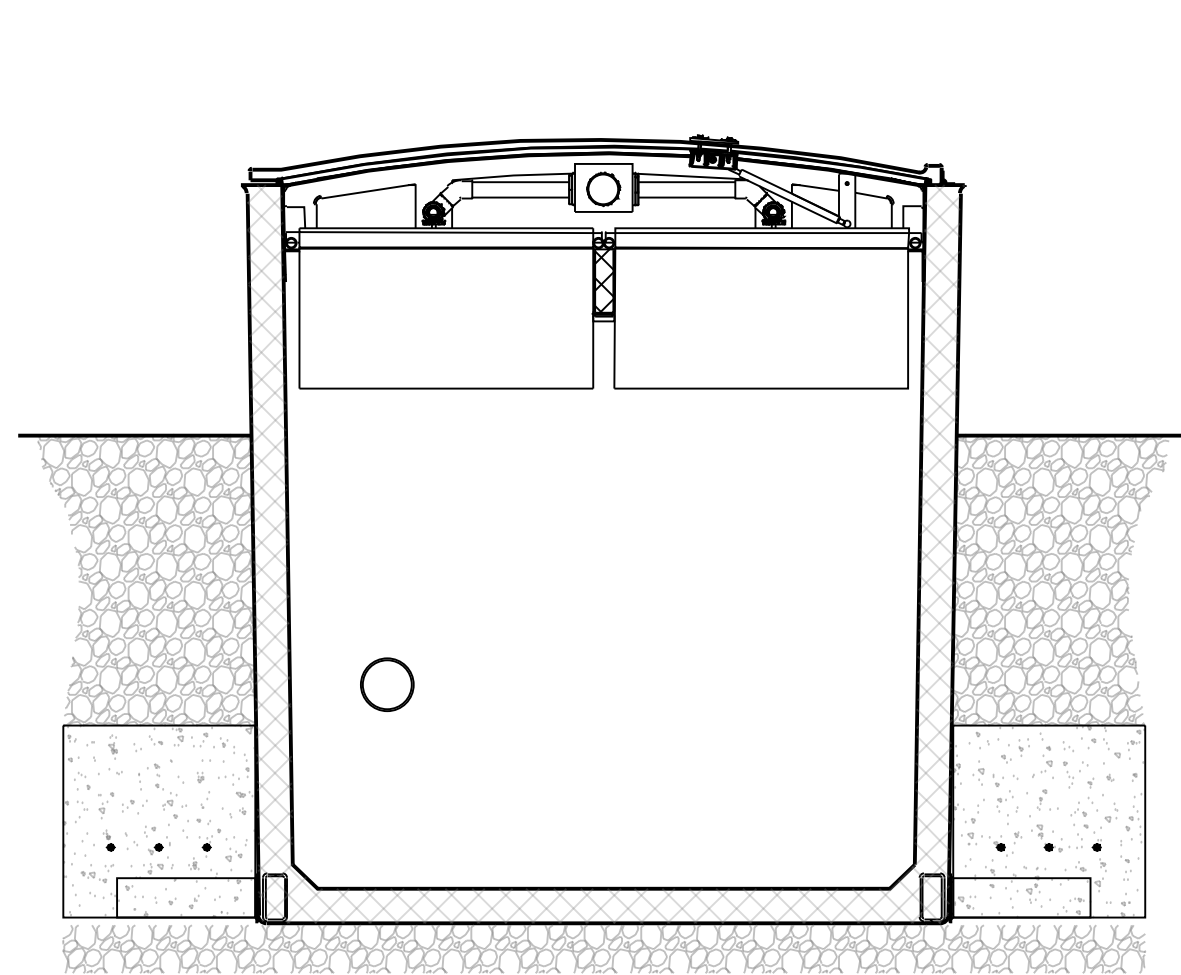
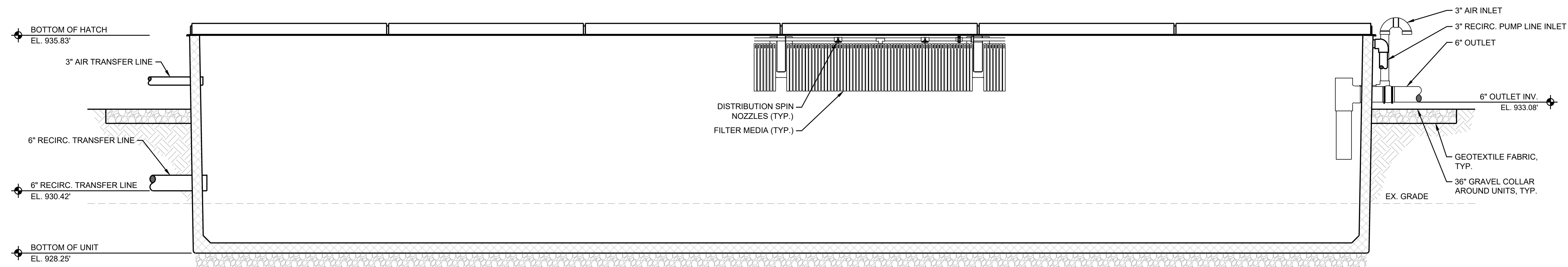
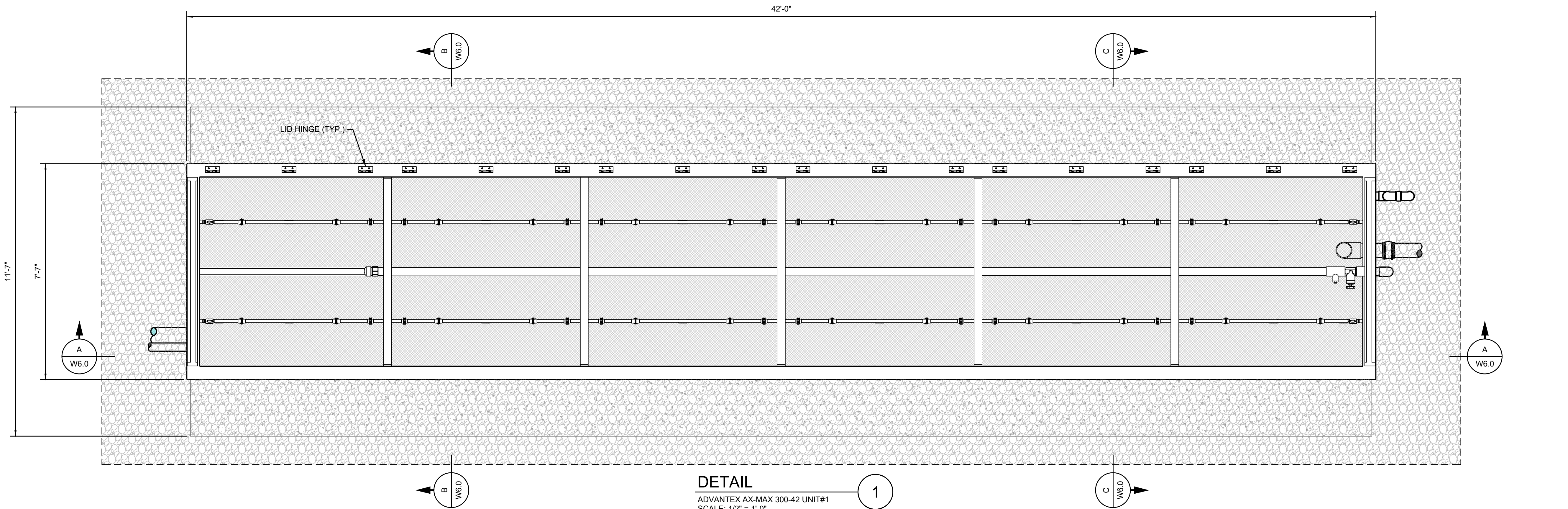


PLAN
ADVANTEX AX-MAX TREATMENT
SCALE: 3/8" = 1'-0"

- NOTES**
- ALL EXPOSED PIPING TO BE INSULATED AND WRAPPED WITH ALUMINUM.

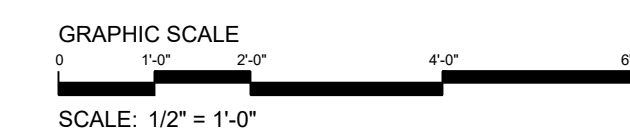


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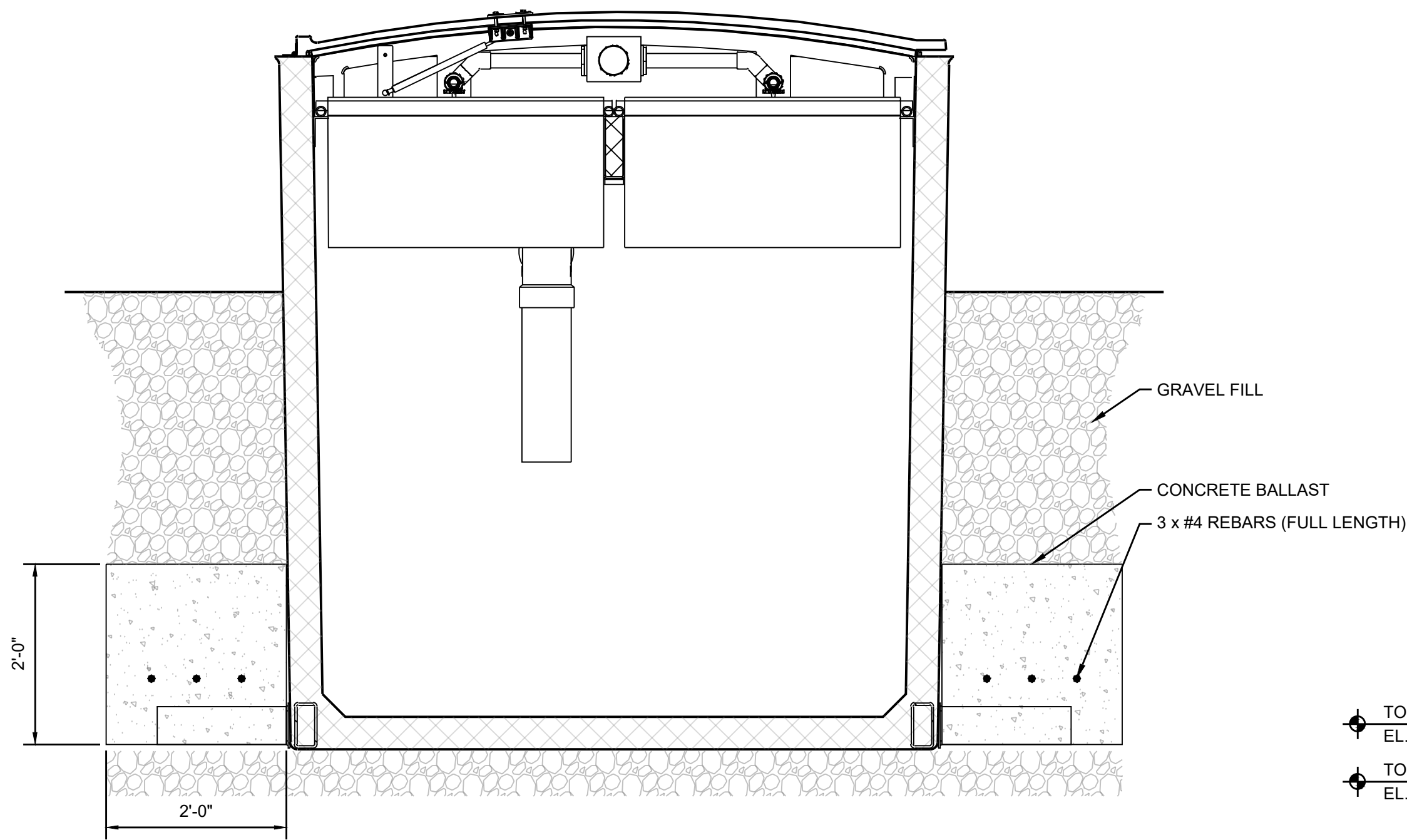


NOTES

- ALL EXPOSED PIPING TO BE INSULATED AND WRAPPED WITH ALUMINUM.



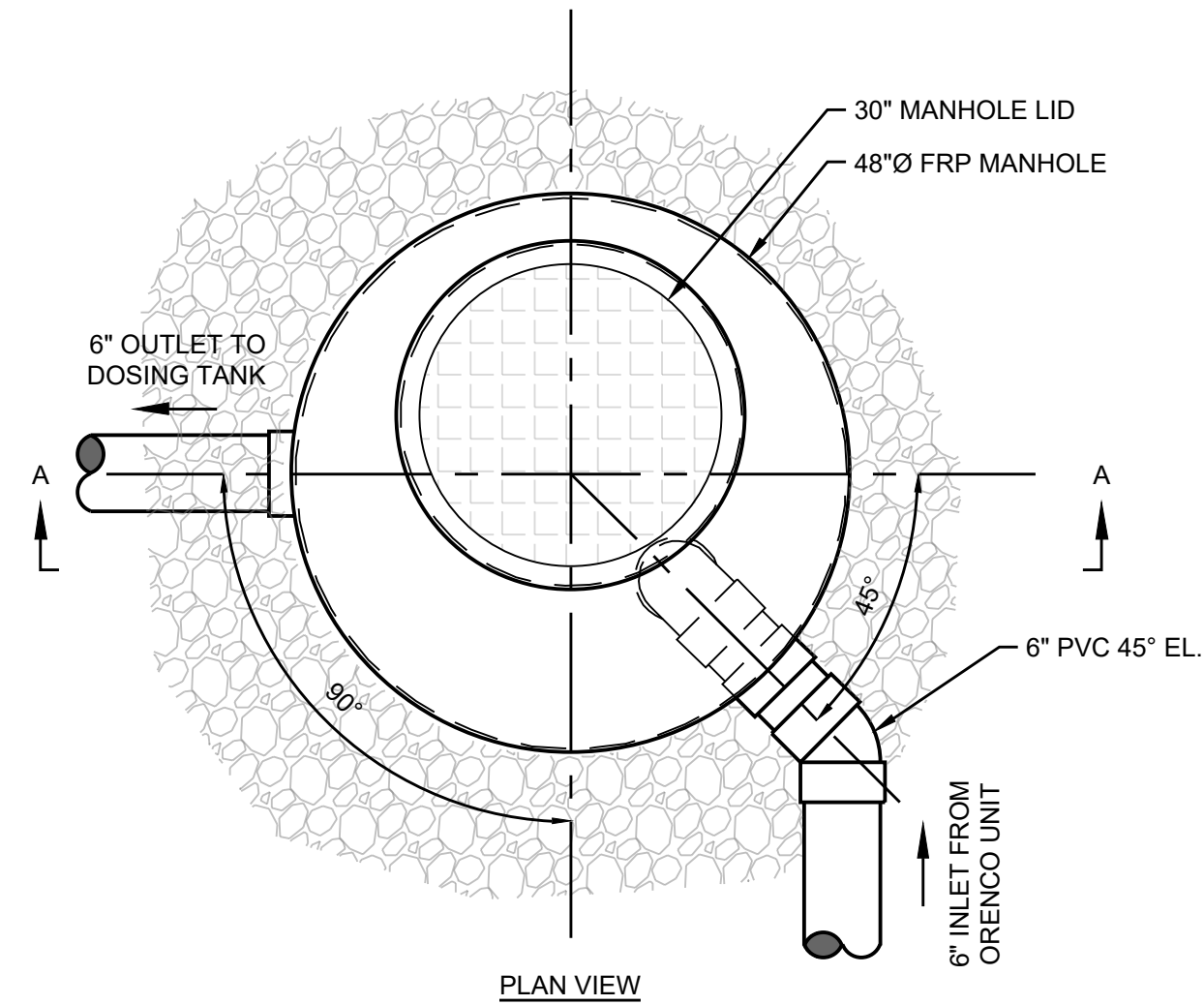
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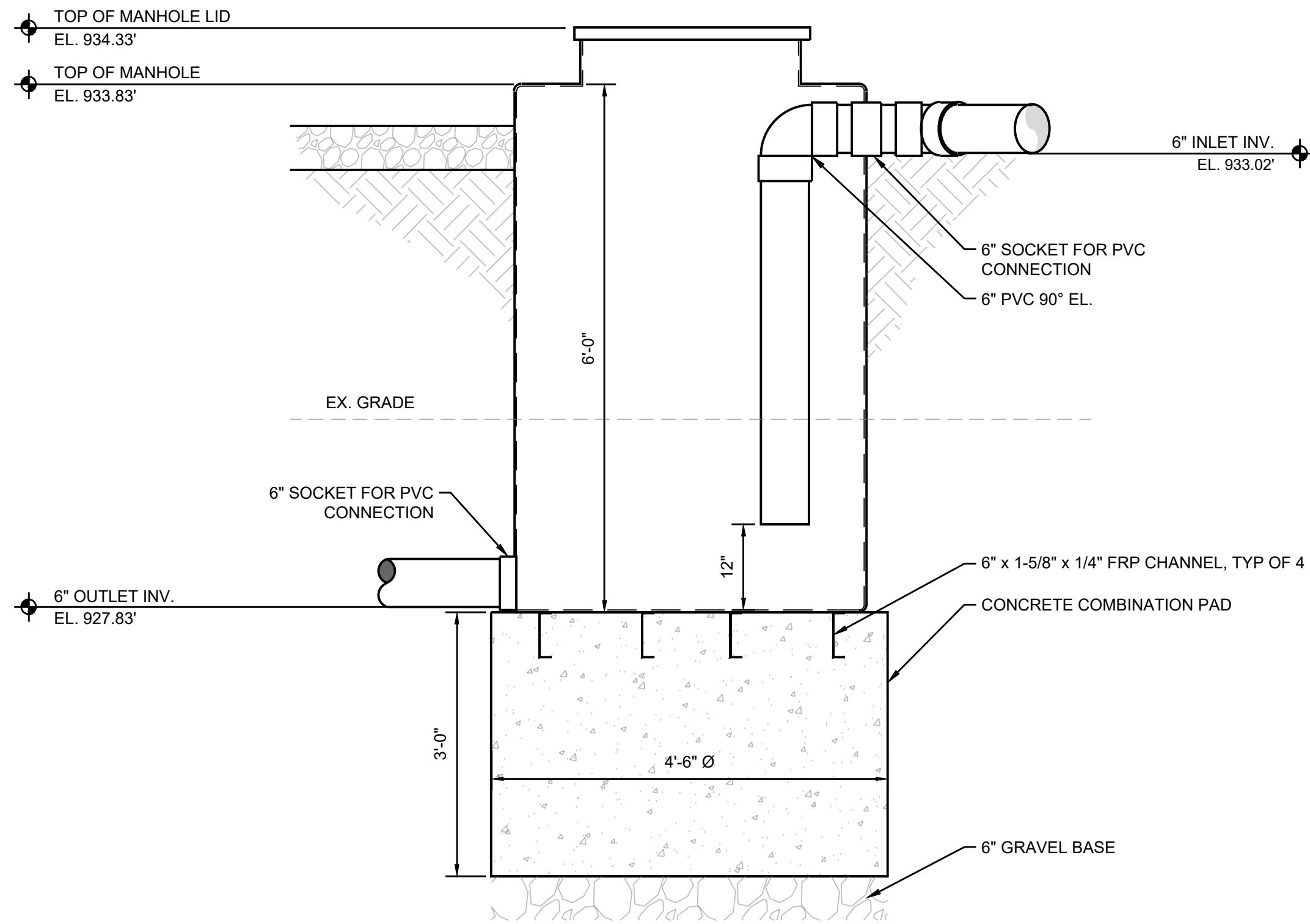
DETAIL

ADVANTEK AX-MAX BUOYANCY & BACKFILL
SCALE: 3/4" = 1'-0"

1



PLAN VIEW

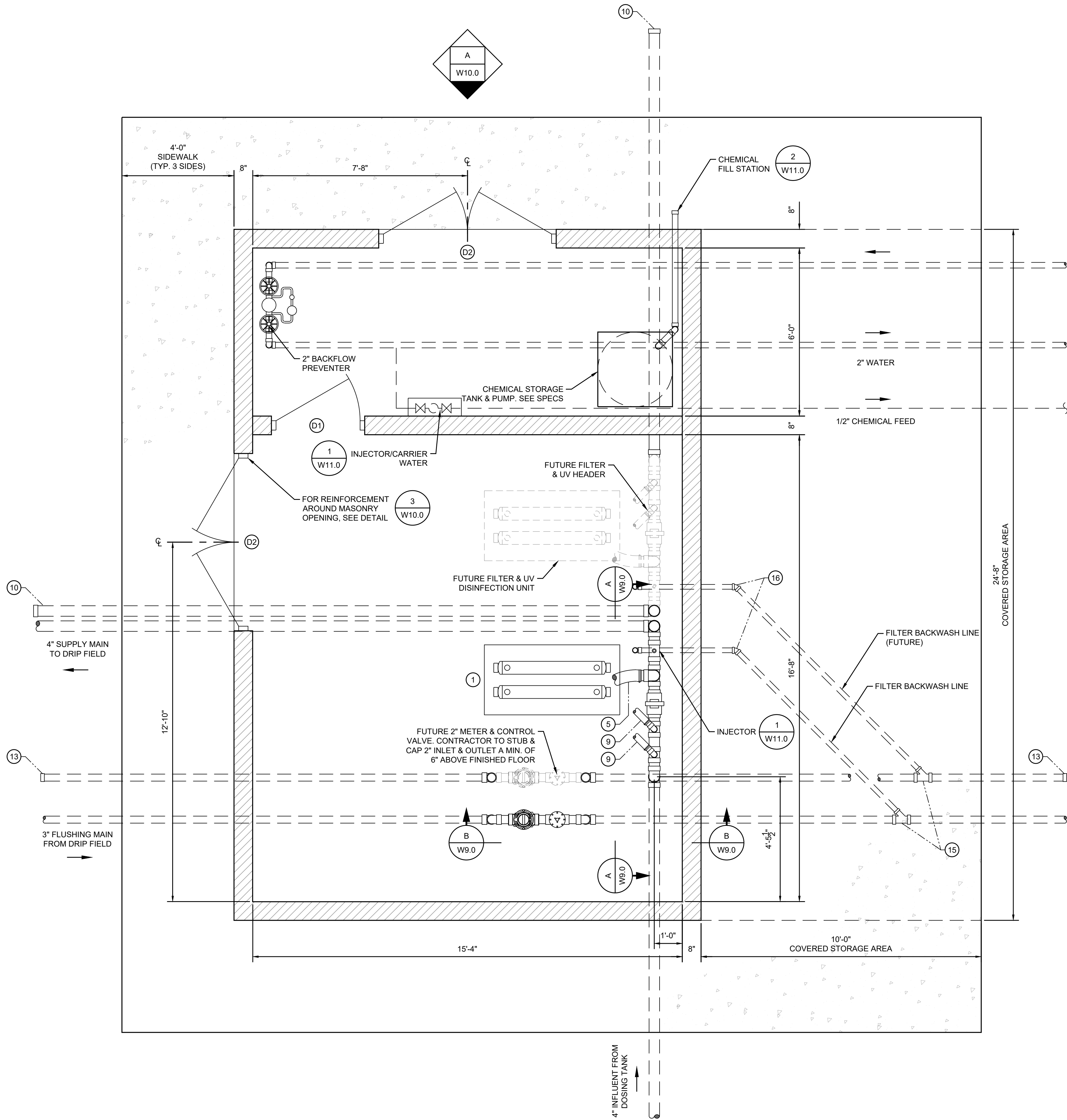


SECTION A-A
(PIPING ROTATED FOR CLARITY)

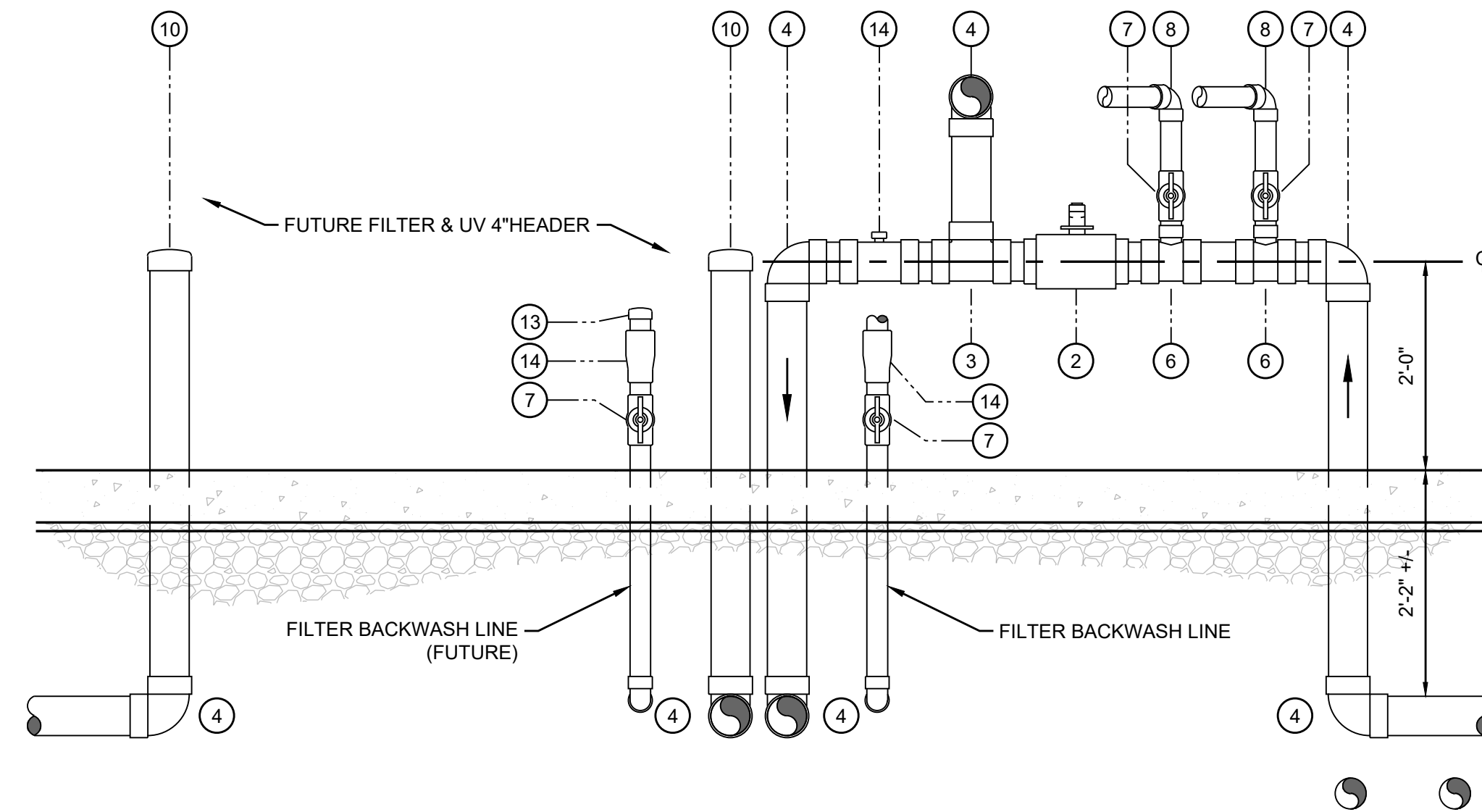
DETAIL

FRP DROP MANHOLE
SCALE: 1/2" = 1'-0"

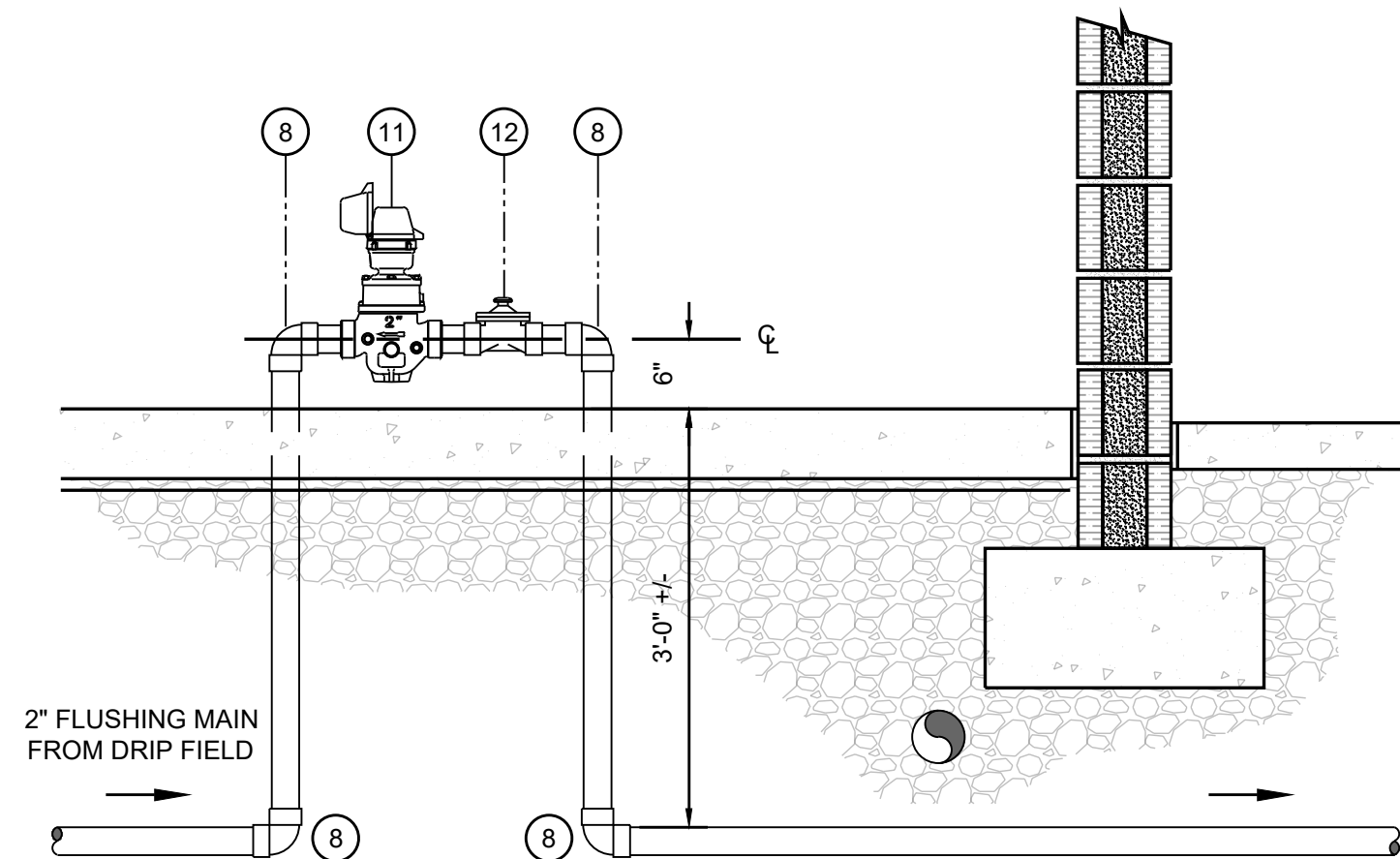
2



PLAN
CONTROL BUILDING FLOOR PLAN
SCALE: 1/2" = 1'-0"



SECTION
FILTER & UV INLET/OUTLET HEADER
SCALE: 3/4" = 1'-0"



SECTION
RETURN LINE METER & CONTROL VALVE
SCALE: 3/4" = 1'-0"

NOTE

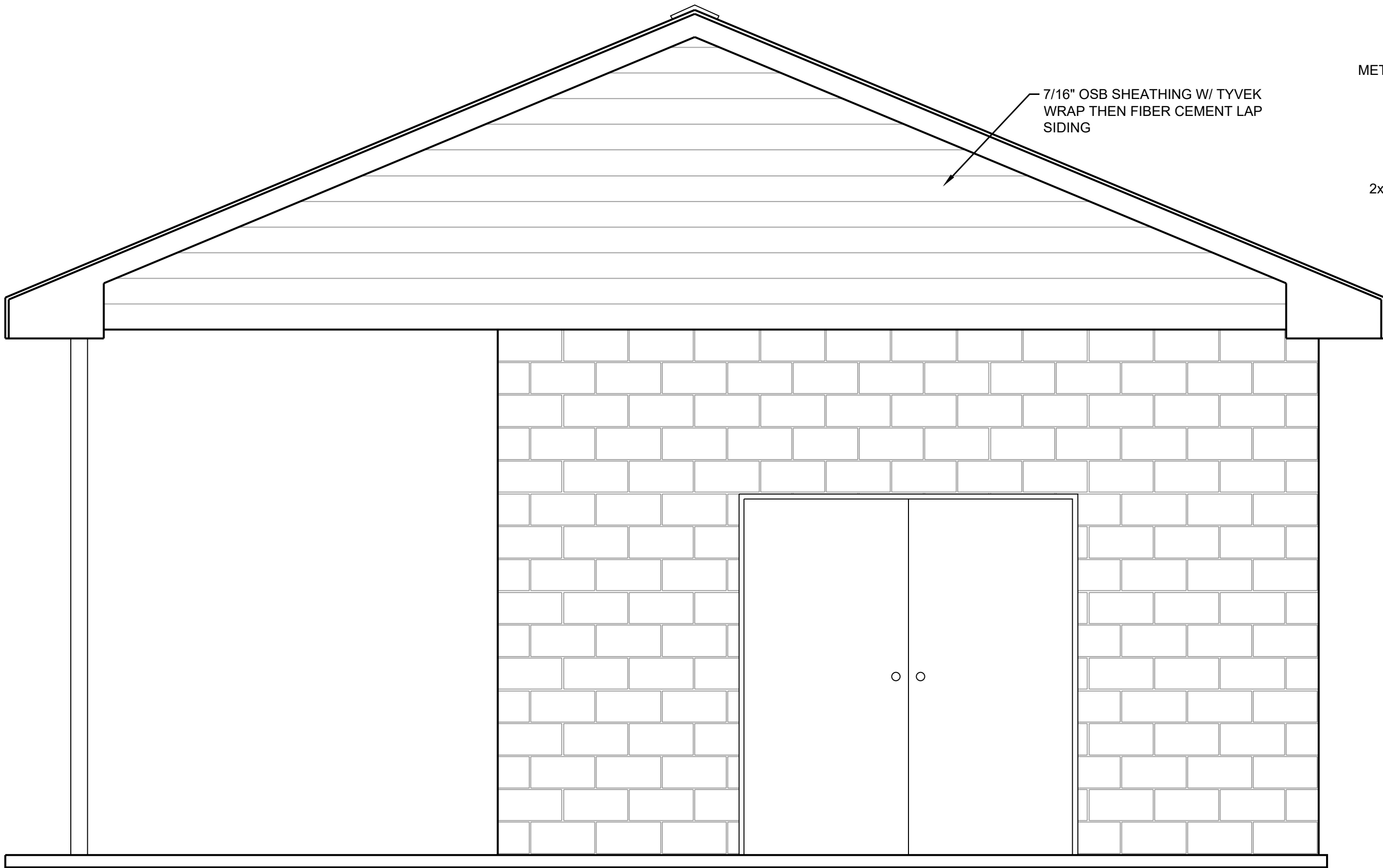
1. ALL PIPING TO BE SCH 40 PVC UNLESS NOTED OTHERWISE.

EQUIPMENT

- 1 FILTER & UV DISINFECTION UNIT
2 4" BALL VALVE PVC
3 4" TEE PVC
4 4" ELBOW PVC
5 4" FLEXIBLE CONNECTOR W/ SS HOSE CLAMPS
6 4"x2" TEE PVC
7 2" BALL VALVE PVC
8 2" ELBOW PVC
9 2" FLEXIBLE CONNECTOR W/ SS HOSE CLAMPS
10 4" PVC CAP
11 2" FLOW METER
12 2" CONTROL VALVE
13 2" PVC CAP
14 2" PVC CHECK VALVE
15 3"x2" PVC WYE
16 2" PVC 45° EL.

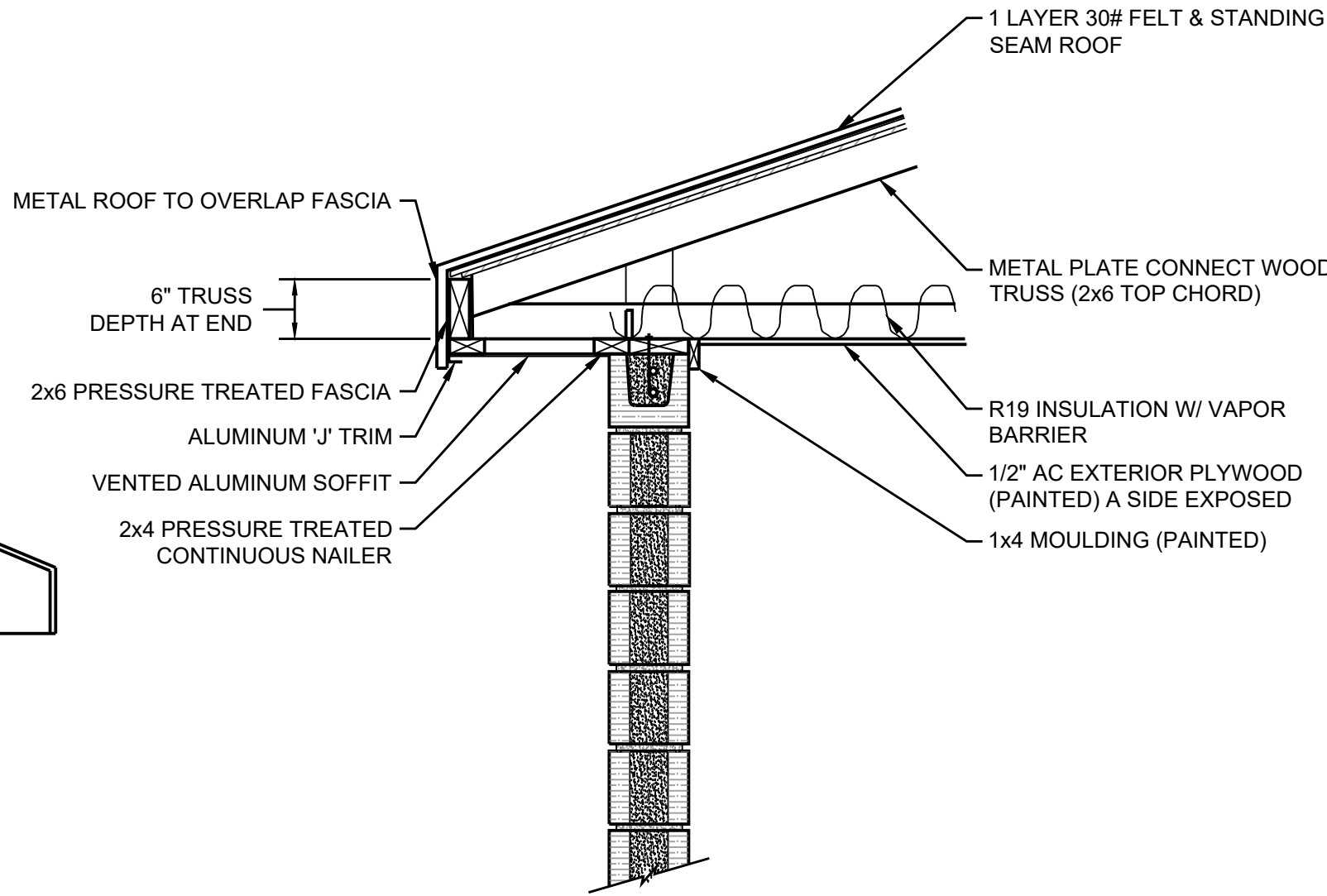


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ELEVATION
NOT TO SCALE

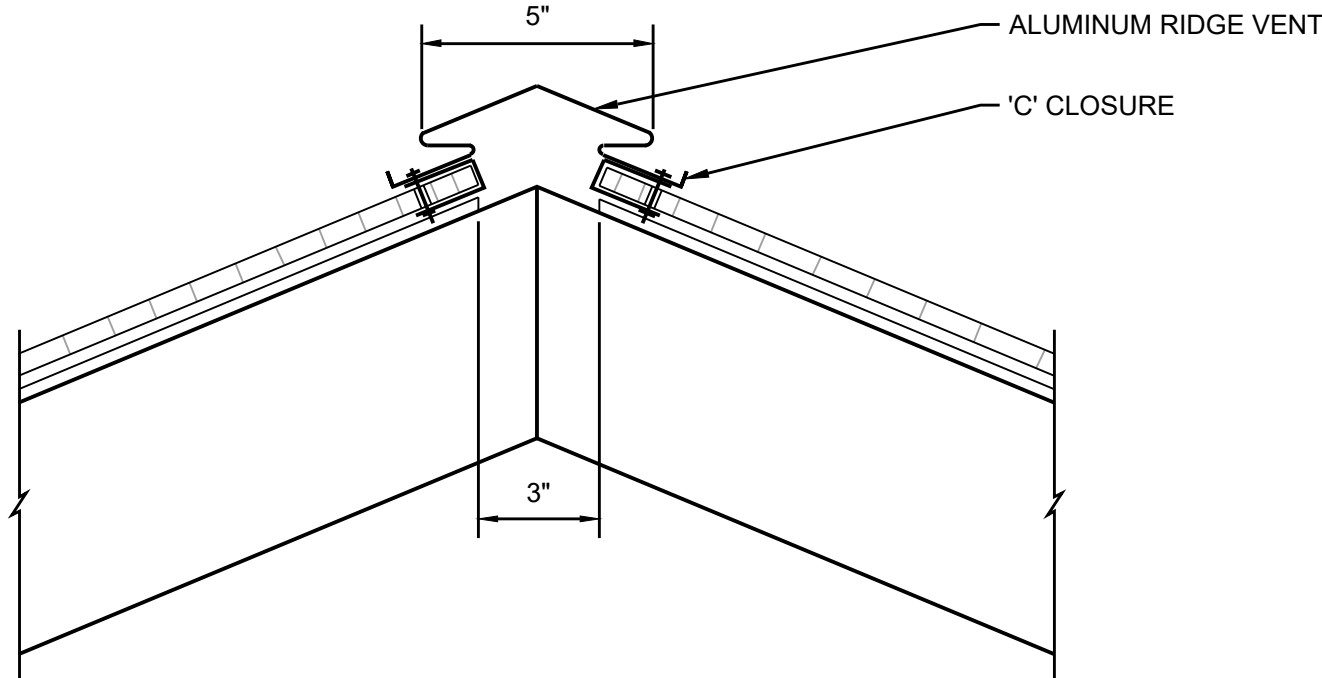
A
W10.0



DETAIL

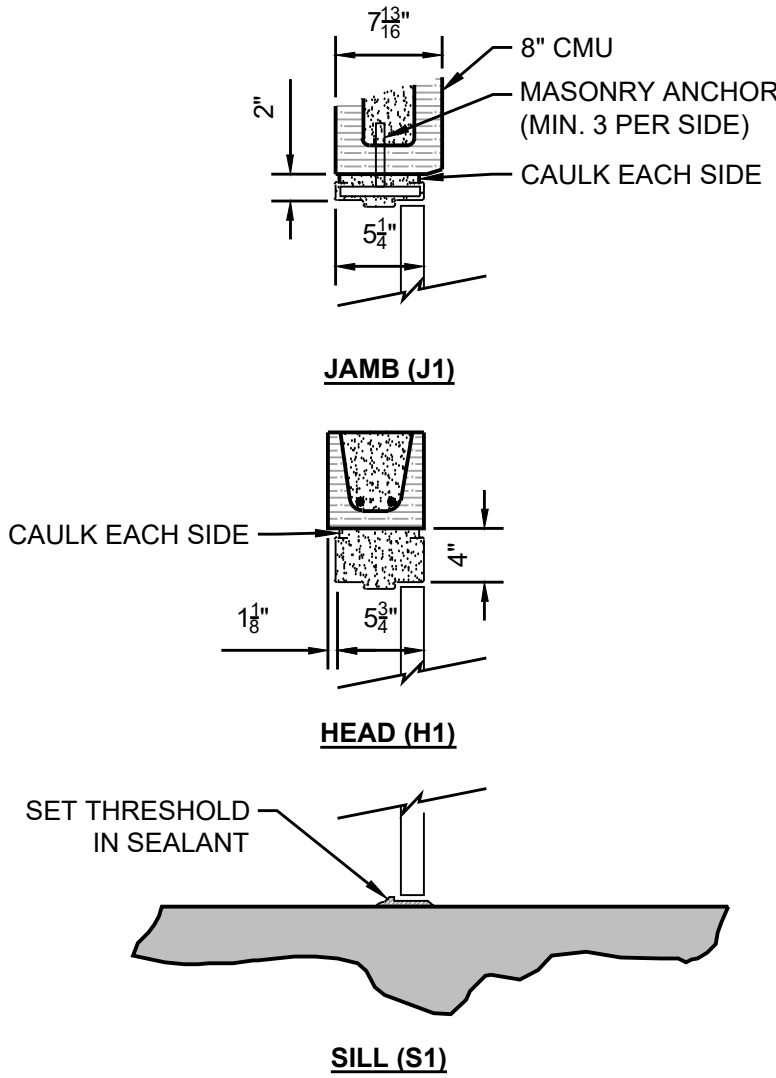
TYPICAL ROOF SECTION
SCALE: 3/4" = 1'-0"

NOTE:
GUTTERS NOT SHOWN FOR CLARITY. INCLUDE 6" GUTTERS & DOWNSPOUTS



DETAIL

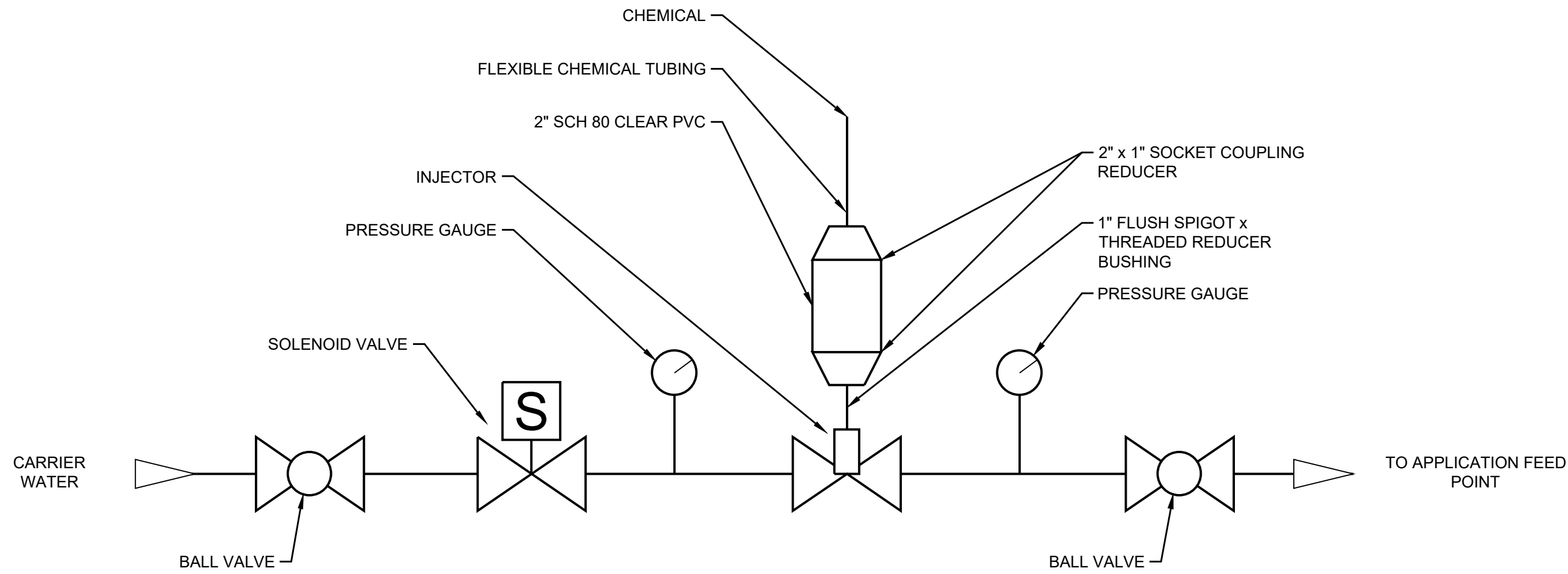
RIDGE VENT
NOT TO SCALE



DETAIL

DOOR SCHEDULE
NOT TO SCALE

DOOR SCHEDULE										
DOOR						FRAME				
TYPE	PANELS	MASONRY OPENING		DIMENSIONS		DETAILS			HARDWARE	REMARKS
		WIDTH	HEIGHT	WIDTH	HEIGHT	HEAD	JAMB	SILL	SET	
D1	1	3'-4"	7'-4"	3'-0"	7'-0"	H1	J1	S1	1	WEATHER STRIP ALL AROUND
D2	1	6'-4"	7'-4"	6'-0"	7'-0"	H1	J1	S1	1	WEATHER STRIP ALL AROUND



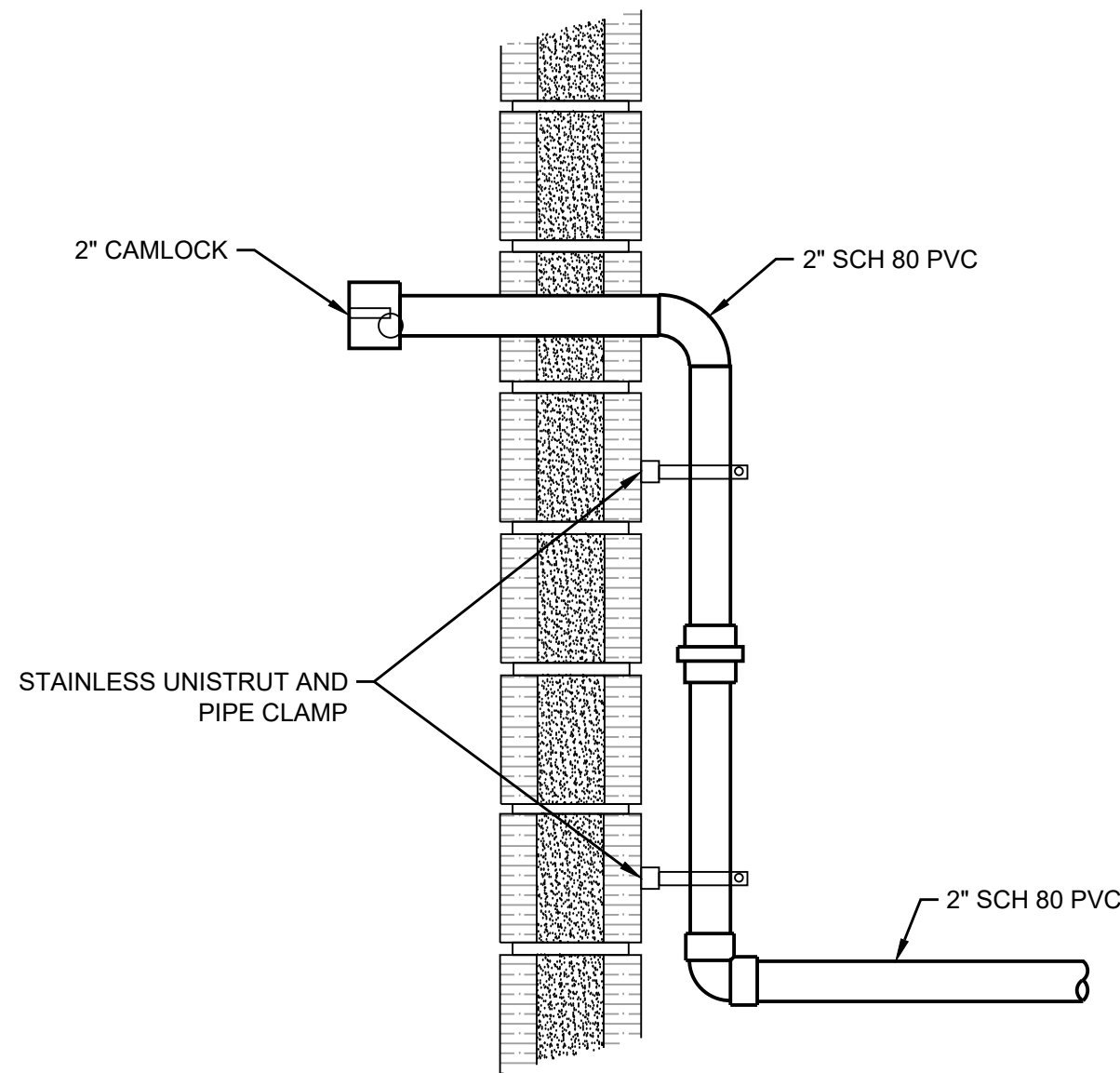
DETAIL

INJECTOR/CARRIER WATER SCHEMATIC
NOT TO SCALE

1

NOTES

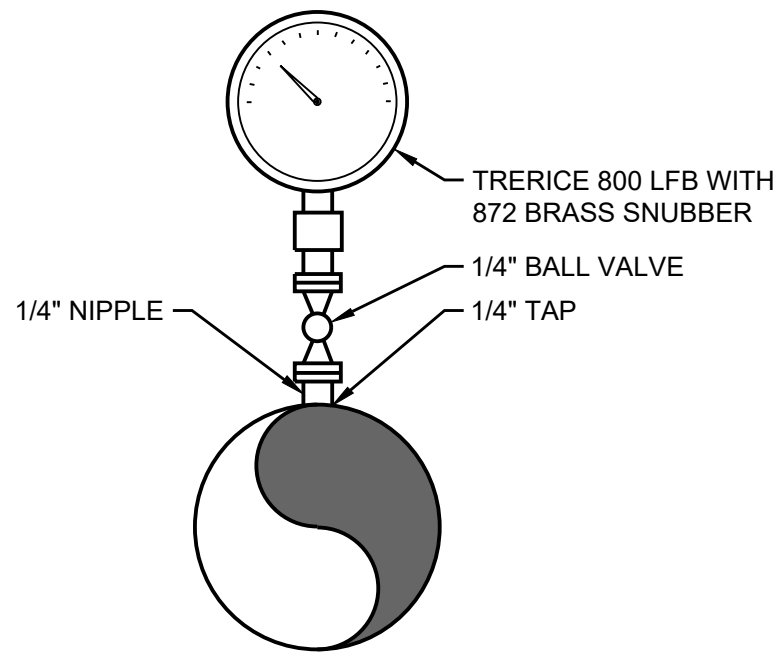
1. MOUNT INJECTOR AND VALVES ON HDPE BOARD
2. LINE SIZE TO BE 1/2"
3. INJECTOR TO BE MAZZEI 0283PP
4. INLET SOLENOID TO BE INTERLOCKED WITH METERING PUMP, NC
5. PRESSURE GAUGE TO BE PLASTOMATIC GGTS100-PV
6. BALL VALVES TO BE TRUE-UNION



DETAIL

CHEMICAL FILL STATION
NOT TO SCALE

2

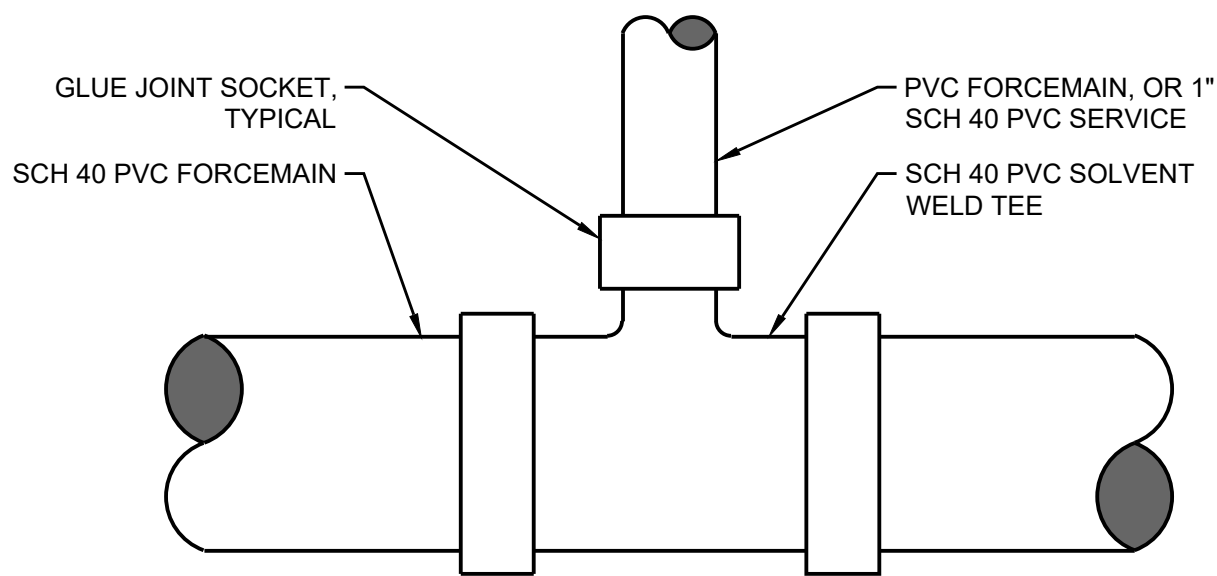


ALL 304 STAINLESS STEEL PIPE AND FITTINGS

DETAIL

PRESSURE GAUGE
NOT TO SCALE

3



DETAIL

SCH 40 PVC SOLVENT WELD FITTING
NOT TO SCALE

4

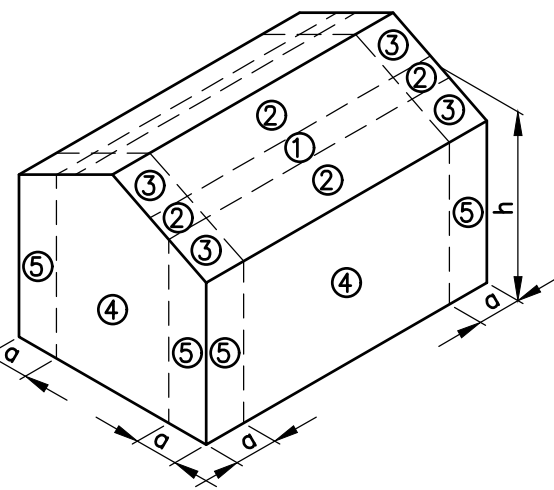
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STRUCTURAL GENERAL NOTES

1.0 DESIGN AND CODE INFORMATION

- THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH 2006 INTERNATIONAL BUILDING CODE. ALL DESIGN, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REFERENCED CODE(S). UNLESS SPECIFIED OTHERWISE.
- THIS STRUCTURE IS A ONE-STORY EQUIPMENT BILDING. LATERAL STABILITY IS ACHIEVED THROUGH MASONRY SHEAR WALLS IN BOTH DIRECTIONS.
- ROOF DEAD LOADS:
 - ASPHALT SHINGLES 2.5 PSF
 - SHEATHING 2.5 PSF
 - WOOD ROOF TRUSSES 4.0 PSF
 - CEILING 2.5 PSF
 - INSULATION ALLOWANCE 2.0 PSF
 - M.E. & P ALLOWANCE 4.0 PSF
- STRUCTURAL ROOF MEMBERS SHALL BE DESIGNED FOR MINIMUM ROOF LIVE LOADS BASED ON THE FOLLOWING TRIBUTARY LOADED AREAS (A_t):
 - 0 TO 200 SF L_r = 20 PSF
 - 201 TO 600 SF L_r = 20xR1xR2 WHERE R1 = 1.2-0.001A_t & R2 = 1.0
 - OVER 600 SF L_r = 12 PSF
- INTERIOR PARTITION MINIMUM DESIGN LATERAL LOAD = 5 PSF
- DISTRIBUTION COEFFICIENTS SHALL BE APPLIED TO THE GROUND SNOW LOAD OF 10 PSF, AS REQUIRED BY THE BUILDING CODE.
- THE ITEMS INCLUDED IN THIS PROJECT ARE DESIGNED FOR THE FOLLOWING WIND LOADS:
 - BASIC WIND SPEED: 115 MPH
 - BUILDING CATEGORY: ENCLOSED
 - WIND EXPOSURE: B
 - INTERNAL PRESSURE COEFFICIENT: +0.18/-0.18
 - DESIGN WIND PRESSURES COMPONENTS AND CLADDING:

LOCATION	ZONE	EFFECTIVE WIND AREA (SF)	DESIGN WIND PRESSURE
ROOF	1	10	+10.0 -15.3
		20	+10.0 -14.9
		50	+10.0 -14.3
		100	+10.0 -13.9
	2	10	+10.0 -26.7
		20	+10.0 -24.5
		50	+10.0 -21.7
		100	+10.0 -19.6
	3	10	+10.0 -39.4
		20	+10.0 -36.6
50		+10.0 -33.8	
100		+10.0 -30.9	
WALLS	4	10	+16.7 -18.2
		20	+16.0 -17.4
		50	+15.0 -16.4
		100	+14.2 -15.7
	5	10	+16.7 -22.4
		20	+16.0 -20.9
		50	+15.0 -18.9
		100	+14.2 -17.4



- ZONE 1 ROOF
ZONE 2 WITHIN 3.0' OF EDGE OF ROOF
ZONE 3 WITHIN 3.0' OF CORNER OF ROOF
ZONE 4 WALLS
ZONE 5 WITHIN 3.0' OF CORNER OF BUILDING
- DESIGN WIND PRESSURES - PLUS AND MINUS SIGNS SIGNIFY PRESSURE ACTING TOWARD AND AWAY FROM EXTERIOR SURFACE

- THE STRUCTURE IS DESIGNED USING THE FOLLOWING SEISMIC LOAD DATA:
 - RISK CATEGORY: I
 - SEISMIC IMPORTANCE FACTOR: 1.25
 - SITE CLASS: D
 - SPECTRAL RESPONSE COEFFICIENTS:
 - S_s = 0.31
 - S₁ = 0.111
 - S_{0.5} = 0.32
 - S_{0.1} = 0.174
 - SEISMIC DESIGN CATEGORY: C
 - BASIC STRUCTURAL SYSTEM: BEARING WALL SYSTEM
 - CONTROLLING BASIC SEISMIC FORCE RESISTING SYSTEM: INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
 - RESPONSE MODIFICATION FACTOR: R = 3.5
 - DEFLECTION AMPLIFICATION FACTOR: C_d = 2.25
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

2.0 ADDITIONAL CONTRACTOR RESPONSIBILITIES AND DEFINITIONS

- SHOP DRAWINGS SHALL NOT BE REVIEWED FOR APPROVAL UNLESS CHECKED BY THE FABRICATOR AND APPROVED BY THE CONTRACTOR. SUBMIT ELECTRONIC PDF'S FOR ENGINEER'S REVIEW AND MARK UP. REPRODUCTION OF CONTRACT DOCUMENTS FOR SHOP DRAWINGS WILL NOT BE PERMITTED OR ACCEPTED.
- THE CONTRACTOR SHALL PROVIDE 7 WORKING DAYS IN HIS SCHEDULE FOR THE ENGINEER'S REVIEW OF EACH SUBMITTAL. THE 7 WORKING DAYS COMMENCE UPON THE ENGINEER'S RECEIPT OF A PROPERLY COMPLETED SUBMITTAL IN HIS OFFICE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CERTIFY THAT HE HAS NOT MADE A CHANGE TO SPECIFIED MATERIALS ON SUBMITTALS.
- THE CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS AND THAT THESE LOADS ARE NOT PUT ON THE STRUCTURAL MEMBERS PRIOR TO THE TIME THAT ALL FRAMING MEMBERS AND THEIR CONNECTIONS ARE IN PLACE.
- THE OWNER AND DESIGNER SHALL EXAMINE THE STRUCTURE AND INFORM THE STRUCTURAL ENGINEER IN WRITING OF ANY LOADS NOT LISTED ABOVE. NO RESERVE LIVE LOAD CAPACITY EXISTS FOR CONVERSION TO OTHER USES IF NOT NOTED ABOVE.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, HORIZONTAL AND VERTICAL DIMENSIONS AND COORDINATION OF ARCHITECTURAL AND STRUCTURAL DRAWINGS. IMMEDIATELY NOTIFY THE DESIGNER OF ANY DISCREPANCIES. FOR DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS, SEE THE CIVIL DRAWINGS.

2.0 ADDITIONAL CONTRACTOR RESPONSIBILITIES AND DEFINITIONS CONTINUED:

- DIMENSIONS SHOWN INDICATE SPANS FOR WHICH MEMBERS ARE STRUCTURALLY ADEQUATE. THE CONTRACTOR SHALL COORDINATE AND CONFIRM ALL DIMENSIONS. COORDINATE ALL OPENINGS, SUPPORT SYSTEMS, DUCTWORK LOCATIONS, MECHANICAL ELEMENTS SPRINKLERS ETC., WITH STRUCTURAL ELEMENTS. CONSULT THE DESIGNER AND OBTAIN APPROVAL PRIOR TO MAKING CHANGES TO STRUCTURAL SYSTEMS.
- THESE DRAWINGS AND SPECIFICATIONS ARE A PERFORMANCE SPECIFICATION. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO EXECUTE AND COMPLETE ALL ITEMS OF WORK AS SHOWN OR INDICATED ON THE DRAWINGS AND AS SPECIFIED IN THIS SECTION, INCLUDING INCIDENTAL ITEMS TO EFFECT A FINISHED AND COMPLETE JOB, EVEN THOUGH SUCH ITEMS ARE NOT SHOWN OR PARTICULARLY MENTIONED ON THE CONSTRUCTION DOCUMENTS.
- THE DESIGN, ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE DETAILS SHOWN ON THE STRUCTURAL DRAWINGS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
- NOTES ON THE STRUCTURAL GENERAL NOTES SHEET ARE APPLICABLE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
- INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE EXCAVATING AND ADVISE THE DESIGNER OF ALL INTERFERENCES.

3.0 FOUNDATION

- A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED FOR THIS PROJECT. A GEOTECHNICAL ENGINEER SHALL BE EMPLOYED TO VERIFY THE FOLLOWING DESIGN PARAMETERS.
- SHALLOW FOUNDATION DESIGN PARAMETERS ARE AS FOLLOWS: SHOULD ACTUAL CONDITIONS BE DETERMINED TO DEVIATE FROM THE VALUES SPECIFIED, THE TESTING LABORATORY AND THE CONTRACTOR SHALL BOTH NOTIFY DESIGNER BEFORE CONSTRUCTION OF THE SHALLOW FOUNDATION SYSTEM.
 - CONTINUOUS FOOTINGS 2500 PSF
 - BUILDING PAD: SUBGRADE MODULUS 100 PSI/IN
- FOUNDATIONS ARE DESIGNED TO BEAR ON FIRM UNDISTURBED EARTH OR APPROVED CONTROLLED FILL. NO FOOTING SHALL BEAR DIRECTLY ON ROCK. WHERE UNACCEPTABLE BEARING MATERIAL OCCURS, EXCAVATE AND REPLACE WITH FILL MATERIAL AS APPROVED BY THE GEOTECHNICAL ENGINEER.
- DESIGN OF EXTERIOR FOUNDATIONS IS BASED ON A FROST DEPTH OF 18 INCHES BELOW FINISHED GRADE. ALL EXTERIOR AND PERIMETER FOUNDATIONS SHALL BEAR BELOW THIS DEPTH.
- PROOF-ROLL THE AREAS UNDER THE STRUCTURE AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- WHERE COMPACTED EARTH FILL IS SHOWN ON THE CONTRACT DOCUMENTS, IT SHALL BE PLACED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- FOUNDATION CONCRETE SHALL BE PLACED THE SAME DAY THE EXCAVATION IS MADE WHEN FEASIBLE. WHERE FOUNDATION EXCAVATIONS MUST REMAIN OPEN OR EXPOSED, SPECIAL CARE SHOULD BE TAKEN TO PROTECT THE EXPOSED SOILS FROM BEING DISTURBED, SATURATED, OR DRIED OUT PRIOR TO THE PLACEMENT OF SELECT FILL OR CONCRETE WITH A MUD MAT OF LEAN (2500 PSI) CONCRETE OR AS APPROVED BY THE GEOTECHNICAL ENGINEER.

4.0 REINFORCEMENT

- REINFORCING BARS SHALL CONFORM TO ASTM A615 OR A706, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
- DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL, SP-66, THE CRSI MANUAL OF STANDARD PRACTICE AND ACI 318.
- REINFORCING SHALL NOT BE HEATED OR WELDED.
- REINFORCING SHALL BE PLACED BY THE ARCHITECT OR THEIR AUTHORIZED REPRESENTATIVE BEFORE CONCRETE IS PLACED.
- PROVIDE THE FOLLOWING CONCRETE COVER FOR REINFORCEMENT (EXPOSED MEMBERS ARE MEMBERS EXPOSED TO WEATHER OR EARTH IN SERVICE):

	NOT EXPOSED	EXPOSED	CAST AGAINST EARTH
FOOTINGS	—	2"	3"
- MASONRY REINFORCEMENT SHALL BE PLACED IN THE CENTER OF THE WALL UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- BARS DESIGNATED CONTINUOUS OR BARS REQUIRED TO BE SPLICED FOR PLACEMENT SHALL BE LAPPED AS FOLLOWS:
 - CONCRETE REINFORCEMENT: CLASS "B" TENSION LAP
 - MASONRY REINFORCEMENT: 8" CMU: #5 - 30"
 - #5 (EA. FACE) - 45"
 - LAP SPLICES OF BOTTOM BARS SHALL OCCUR AT A SUPPORT.
 - LAP SPLICES OF TOP STEEL SHALL OCCUR AT MID SPAN.
- WELDED WIRE FABRIC (WFF) SHALL LAP TWO FULL MESHES AND BE SECURELY WIRED AT EACH SIDE AND END. END REINFORCEMENT SHALL BE DISCONTINUED AT CONTROL JOINTS AND WHERE MASONRY VENEER IS SUPPORTED FROM THE STRUCTURE.
- PROVIDE CORNER BARS AT ALL CONTINUOUS FOOTING INTERSECTIONS, WALL AND BOND BEAM CORNERS. AT A MINIMUM, BARS SHALL BE THE SAME SIZE AND SPACING AS HORIZONTAL REINFORCING IN EACH DIRECTION.

5.0 CONCRETE

- ALL CONCRETE WORKMANSHIP AND MATERIALS SHALL CONFORM TO ACI 318 AND ALL LOCAL LAWS AND ORDINANCES.
- THE CONCRETE MIX REQUIREMENTS TABLE SHOWN BELOW SHALL APPLY TO ALL CONCRETE MIX DESIGNS USED ON THIS PROJECT. MIX DESIGN SUBMITTALS SHALL BE IDENTIFIED FOR INTENDED STRUCTURAL USE.
- GROUT USED UNDER COLUMN BASE PLATES SHALL BE CEMENT BASED, NON-SHRINK, NON-METALLIC GROUT. THE GROUT SHALL EXHIBIT NO SHRINKAGE IN ACCORDANCE WITH ASTM C827 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C109.
- PROVIDE ENTRAINED AIR AS SPECIFIED UNDER THE DURABILITY REQUIREMENTS OF ACI 318.
- ALL CONCRETE SHALL BE VIBRATED.
- NO REPAIR OR RUBBING OF CONCRETE SURFACES SHALL BE MADE PRIOR TO INSPECTION BY AND WITH APPROVAL OF THE DESIGNER, OWNER, OR THEIR AUTHORIZED REPRESENTATIVES.
- SAWN CONTROL JOINTS IN SLABS-ON-GRADE SHALL BE CUT IN SHEETS IN ACCORDANCE WITH ACI 302.1R. JOINTS SHALL BE CUT WITHIN 12 HOURS OF SLAB PLACEMENT. THE LENGTH TO WIDTH RATIOS OF SLAB AREAS SHALL NOT EXCEED 1.25. THE MAXIMUM AREA OF SLAB WITHIN JOINTS SHALL BE 400 SF.
- PLUMBING, MECHANICAL, & ELECTRICAL, CONTRACTOR SHALL SUBMIT SIZES AND LOCATIONS OF ALL PENETRATIONS IN STRUCTURAL SLABS FOR THE DESIGNER'S APPROVAL BEFORE THE SLAB IS PLACED. IN NO CASE SHALL A PENETRATION BE MADE ADJACENT TO A COLUMN (WITHIN A DISTANCE EQUAL TO THE SLAB THICKNESS) UNLESS APPROVED BY THE DESIGNER.
- ALL PIPE PENETRATIONS THROUGH SLABS SHALL BE SLEEVED IN CONFORMANCE WITH ACI 318, SECTION 6.3.
- INJECTION ADHESIVE ANCHORS SHALL BE RAMSET CERAMIC 6, HILTI HY 150 MAX, OR SIMPSON ACRYLIC-TIE.
- REFER TO DRAWINGS OF OTHER DISCIPLINES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.
- ALL CONCRETE MIX DESIGNS SHALL BE PROPORTIONED IN ACCORDANCE WITH SECTION 5.3 (FIELD EXPERIENCE AND/OR TRIAL MIXTURES) OF ACI 318. SUBMIT MIX DESIGN FOR EACH CLASS OF CONCRETE. IF A STANDARD DEVIATION ANALYSIS IS USED, THE CONCRETE SHALL ACHIEVE AN AVERAGE STRENGTH IN ACCORDANCE WITH TABLE 5.3.2.2 OF ACI 318. SUBMITTALS MADE WHICH DO NOT CONFORM TO ACI 318 SECTION 5.3 SHALL BE REJECTED.
- LABORATORY TESTING WILL BE REQUIRED IN ACCORDANCE WITH ASTM C31. PERFORM COMPRESSION TEST PER ASTM C39; AIR CONTENT TEST PER ASTM C138 (GRAVIMETRIC METHOD), ASTM C173 (VOLUMETRIC METHOD), OR ASTM C231 (PRESSURE METHOD); SLUMP TEST PER ASTM C143.
- LABORATORY SHALL TEST THE NUMBER OF CYLINDERS SPECIFIED BELOW FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF:
 - 2 AT 7 DAYS FOR INFORMATION
 - 2 AT 28 DAYS FOR ACCEPTANCE.

5.0 CONCRETE CONTINUED:

CONCRETE MIX REQUIREMENTS					
USE OR TYPE OF STRUCTURAL ELEMENT	MIN.COMP. STRENGTH (PSI)	TOTAL AIR CONTENT (%)	MAXIMUM W/C RATIO	SLUMP (INCHES)	REMARKS
FOUNDATIONS					
FOOTINGS	3000	NOT REQ.	0.60	5	
SLAB-ON-GRADE					
INTERIOR & EXTERIOR	4500	3-6	0.45	3	
OTHER STRUCTURAL ELEMENTS					
SITE CONCRETE	SEE CIVIL FOR SITE CONCRETE REQUIREMENTS				
NOTES: 1) MIN. COMP. STRENGTH SHALL BE DETERMINED BY TESTING AT 28 DAYS IN ACCORDANCE W/ ASTM C 39.					

6.0 WOOD FRAMING

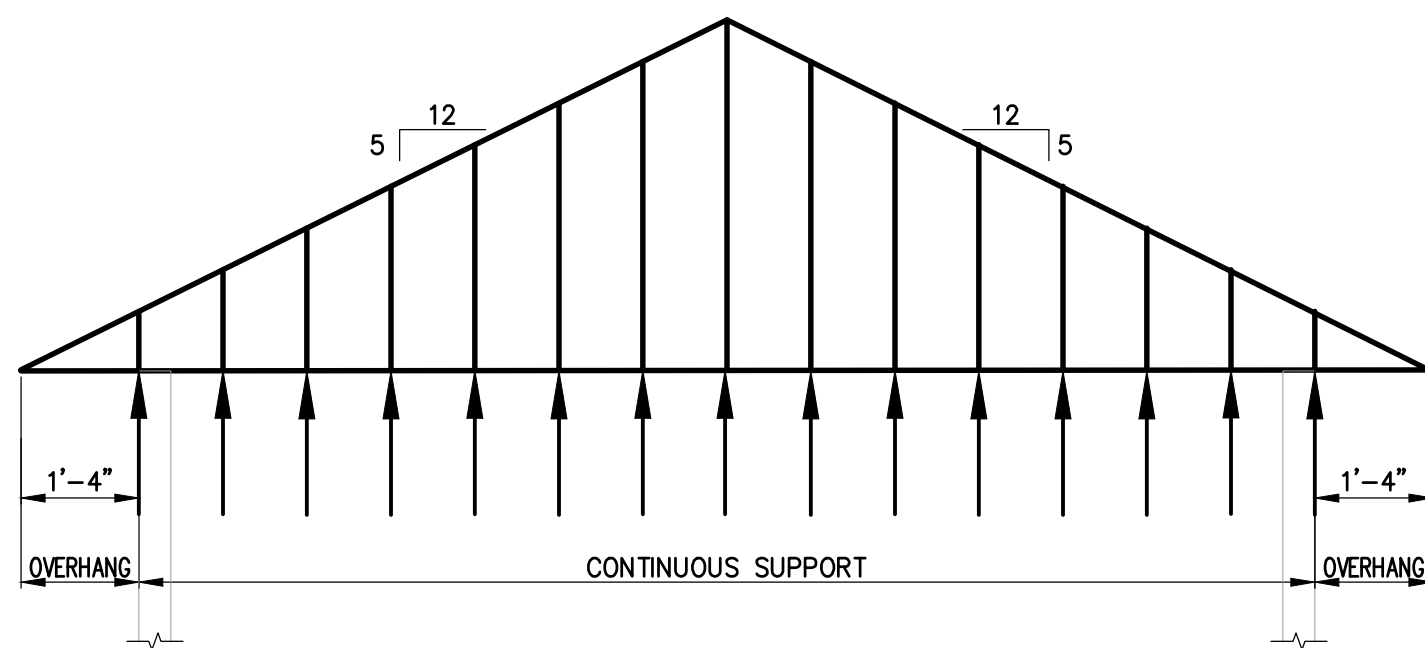
- ALL LUMBER SHALL BE SOUTHERN PINE NO. 2 (MC=19 PERCENT) OR EQUIVALENT.
- NAILING SHALL CONFORM TO THE MINIMUM NAILING REQUIREMENTS AS SET FORTH IN THE BUILDING CODE.
- REFER THE DRAWINGS FOR STANDARD DETAILS ILLUSTRATING ACCEPTABLE PARAMETERS FOR NOTCHING OR DRILLING HOLES IN STUDS AND JOISTS. ANY NOTCHING OR DRILLING THAT FALLS OUTSIDE THE BOUNDARIES PRESCRIBED IN THESE DETAILS MUST BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD BEFORE PROCEEDING.
- CONNECTIONS FOR STRUCTURAL MEMBERS SHALL BE GALVANIZED STRONG-TIE CONNECTORS BY THE SIMPSON COMPANY, USP STRUCTURAL CONNECTORS OR AN APPROVED SUBSTITUTE.
- WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE FOUNDATION GRADE PRESSURE-TREATED SOUTHERN PINE. USE GALVANIZED NAILS IN PRESSURE-TREATED WOOD.
- SILL AND FOUNDATION PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2 INCH DIAMETER A307 ANCHOR RODS EMBEDDED AT LEAST 8 INCHES AND SPACED NOT MORE THAN 2 FEET APART. CONNECT EACH PIECE WITH ONE BOLT LOCATED WITHIN 12 INCHES OF EACH END AND MINIMUM OF TWO BOLTS PER PIECE.
- MASONRY
 - ALL MASONRY CONSTRUCTION SHALL COMPLY WITH ACI 530, "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES".
 - MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY AT 28 DAYS SHALL BE f'm = 1,500 PSI. ALL LOAD-BEARING BLOCK MASONRY SHALL HAVE A MINIMUM NET AREA UNIT STRENGTH OF 1900 PSI AT 28 DAYS.
 - CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 OR ASTM C55 AND BE SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C140.
 - BED JOINT THICKNESS SHALL NOT EXCEED 5/8".
 - GROUT USED FOR FILLING CELLS AND BOND BEAMS SHALL COMPLY WITH ASTM C476 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS DETERMINED IN ACCORDANCE WITH ASTM C140. THE SLUMP SHALL BE BETWEEN 8 INCHES AND 11 INCHES. TEST GROUT STRENGTH IN ACCORDANCE WITH ASTM C1019.
 - WHERE THE MINIMUM DIMENSION OF ANY CONTINUOUS VERTICAL CELL IS 3 INCHES OR LESS, USE FINE GROUT, OTHERWISE USE COARSE (PEA GRAVEL) GROUT.
 - MORTAR SHALL CONFORM TO THE FOLLOWING TYPES AS DEFINED IN THE BUILDING CODE:
 - MASONRY IN CONTACT WITH EARTH: TYPE M.
 - EXTERIOR BLOCK WALLS & BEARING WALLS: TYPE M OR S MORTAR.
 - NON-BEARING INTERIOR PARTITIONS: TYPE N.
 - MORTAR SHALL BE PROPORTIONED TO MEET THE REQUIREMENTS OF ASTM C270.
 - MORTAR SHALL BE TESTED IN THE FIELD IN ACCORDANCE WITH ASTM C780, APPENDIX A-4 MORTAR AGGREGATE RATIO 10%.
 - PROVIDE CONTROL JOINTS AT LOCATIONS APPROVED BY THE ARCHITECT IN ALL MASONRY WALLS AT A MAXIMUM SPACING OF 25 FEET OR 3 TIMES THE WALL HEIGHT, WHICHEVER IS LESS. ALSO PROVIDE CONTROL JOINTS ADJACENT TO CORNERS, AT CHANGES IN WALL HEIGHT AND AT CHANGES IN FOUNDATION CONDITIONS.
 - JOINT REINFORCEMENT SHALL BE DISCONTINUED AT CONTROL JOINTS AND WHERE MASONRY VENEER IS SUPPORTED FROM THE STRUCTURE.
 - DO NOT LOCATE CONTROL JOINTS WITHIN 16 INCHES OF OPENINGS UNLESS MASONRY ABOVE OPENING IS SUPPORTED FROM A STEEL LINTEL, WHICH IS SUPPORTED FROM THE STRUCTURE.
 - HORIZONTAL BOND BEAM REINFORCEMENT AT FLOOR AND ROOF LEVELS SHALL BE CONTINUOUS THROUGH CONTROL JOINTS.
 - JOINT REINFORCEMENT SHALL MEET ASTM A82. PROVIDE THE FOLLOWING MINIMUM CONTINUOUS HORIZONTAL MASONRY REINFORCING AT 16 INCHES C/C:
 - (MANUFACTURED BY DUR-O-WAL OR AN APPROVED SUBSTITUTE.)
 - SINGLE WYTHE:
 - UNREINFORCED: STD. WEIGHT TRUSS TYPE
 - REINFORCED: 8" WIDTH STD. WEIGHT LADUR TYPE
 - ALL REINFORCED HOLLOW UNIT MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. FACE SHELLS AND CROSS WEBS FORMING SUCH CELLS TO BE FILLED SHALL BE FULL-BEDDED IN MORTAR TO PREVENT LEAKAGE OF THE GROUT. ALL HEAD (OR END) JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING UNITS IN SUCCESSIVE VERTICAL COURSES OR BY EQUIVALENT MECHANICAL ANCHORAGE.
 - VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUS VERTICAL CELL MEASURING NOT LESS THAN 3 INCHES AND HAVING A CLEAR AREA OF 10 SQUARE INCHES.
 - VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCEMENT OR 10 FEET.
 - ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH GROUT. ALL GROUT SHALL BE CONSOLIDATED AT TIME OF POURING BY VIBRATING AND THEN RECONSOLIDATED AGAIN BY MECHANICAL VIBRATION AFTER SETTLEMENT HAS OCCURRED, BUT BEFORE PLASTICITY IS LOST.
 - WHEN TOTAL GROUT POUR EXCEEDS 5 FEET IN HEIGHT, THE GROUT SHALL BE PLACED IN 5 FOOT LIFTS. OVERALL POUR HEIGHTS SHALL MEET THE REQUIREMENTS OF ACI 530.1, TABLE 7.
 - WHEN THE GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT NOT LESS THAN 1 INCH OR MORE THAN 2 INCHES BELOW THE TOP OF THE UPPERMOST UNIT GROUTED.
 - CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF ALL CELLS TO BE FILLED IN EACH POUR OF GROUT WHERE SUCH GROUT POUR IS IN EXCESS OF 5 FEET IN HEIGHT. ANY OVERHANGING MORTAR OR OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED FROM THE INSIDES OF SUCH CELL WALLS. THE CLEANOUTS SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.
 - PROVIDE ADEQUATE BRACING FOR ALL MASONRY WALLS DURING CONSTRUCTION AND UNTIL LATERAL SUPPORTS AND DIAPHRAGMS HAVE BEEN ATTACHED AND GROUT HAS ATTAINED THE SPECIFIED DESIGN STRENGTH.

8.0 STRUCTURAL STEEL

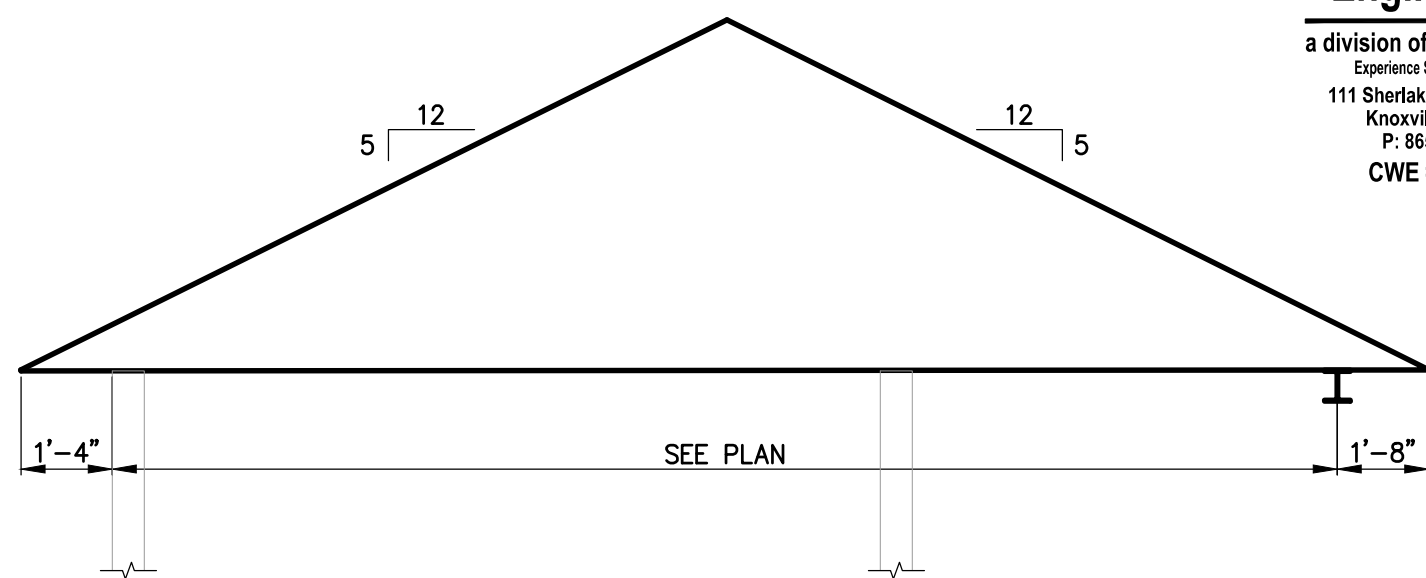
- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, MARCH 9, 2005" AND THE STEEL CONSTRUCTION MANUAL, 13TH EDITION, UTILIZING ALLOWABLE STRESS DESIGN.
 - ALL STRUCTURAL STEEL WIDE FLANGE MEMBERS AND COLUMN BASE PLATES SHALL BE ASTM A992 OR A572 GRADE 50. ALL OTHER PLATE, ANGLES AND CHANNELS SHALL CONFORM TO ASTM A36, A572 GRADE 50, OR A992.
 - STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B (F_y = 35 KSI). ROUND HSS SHAPES SHALL CONFORM TO ASTM A1085 OR ASTM A500, GRADE C (F_y = 46 KSI).
 - SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A1085 OR ASTM A500, GRADE C (F_y = 50 KSI).
 - ANCHOR RODS SHALL BE ASTM F1554 HEADED RODS (REFER TO DRAWINGS FOR STRENGTH REQUIREMENTS). PROVIDE HEAVY HEX NUTS AND WASHERS COMPLYING WITH THE REQUIREMENTS OF TABLE 14-2 IN THE AISC STEEL CONSTRUCTION MANUAL UNLESS THICKER AND/OR LARGER WASHERS ARE NOTED ON THE DRAWINGS. HOLE DIAMETER IN WASHERS SHALL BE THE ANCHOR ROD DIAMETER + 1/16 INCH. IN LIEU OF HEADED RODS, THREADED RODS WITH A HEAVY HEX NUT FULLY ENGAGED AND TACK WELDED TO THE EMBEDDED END MAY BE USED.
 - ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4 INCH DIAMETER ASTM A325 BOLTS IN BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE. ALL BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO AT LEAST THE SNUG TIGHT CONDITION AS DEFINED BY AISC.
 - ALL STEEL BEAM CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED BY THE STRUCTURAL STEEL FABRICATOR AS FOLLOWS:
 - NON-COMPOSITE BEAMS: THE BEAM-TO-BEAM AND BEAM-TO-COLUMN CONNECTION SHALL DEVELOP THE END REACTION SHOWN FOR THE CONNECTED BEAM. WHERE BEAM REACTIONS ARE NOT SHOWN ON THE DRAWINGS, THE END REACTION OF THE CONNECTED BEAM SHALL BE OBTAINED FROM THE MAXIMUM UNIFORM LOAD TABLES IN PART 3 (DESIGN OF FLEXURAL MEMBERS) OF THE THIRTEENTH EDITION OF THE AISC STEEL CONSTRUCTION MANUAL UTILIZING ALLOWABLE STRESS DESIGN. THE END REACTION IS EQUAL TO 1/2 THE TOTAL ALLOWABLE LOAD IN KIPS FOR THE GIVEN BEAM, SPAN AND GRADE OF STEEL SPECIFIED.
 - THE STRUCTURAL STEEL FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS NOT FULLY DETAILED ON THE DRAWINGS. THE FABRICATOR SHALL SUBMIT CONNECTION DESIGN CALCULATIONS AND SELECTION DATA FOR REVIEW BY THE ENGINEER OF RECORD THAT INDICATE THE CONNECTION DESIGN IS IN ACCORDANCE WITH ALL APPLICABLE CODES AND SPECIFICATIONS.
 - ALL BEAM-TO-COLUMN CONNECTIONS SHALL BE SIMPLE OR PARTIALLY-RESTRAINED (PR) MOMENT CONNECTIONS IN ACCORDANCE WITH AISC SPECIFICATION B3.6.
 - WELDING SHALL BE DONE BY CERTIFIED WELDERS USING ASTM E70 SERIES ELECTRODES FOR SHOP WELDING A36 STEEL AND E70 SERIES LOW HYDROGEN ELECTRODES FOR ALL WELDING OF HIGH STRENGTH STEELS AND FOR ALL FIELD WELDING.
 - WELDS SHOWN ON STRUCTURAL DRAWINGS ARE MINIMUM DESIGN REQUIREMENTS. THE FABRICATOR'S SHOP DRAWINGS SHALL REFLECT WELDS IN ACCORDANCE WITH AWS REQUIREMENTS.
 - ALL FILLET WELDS BY EACH WELDER SHALL BE VISUALLY INSPECTED.
 - PROTECT ALL STEEL BELOW GRADE BY ENCASEING IN CONCRETE OR PAINTING WITH BITUMASTIC PAINT.
 - GALVANIZING OF STEEL MEMBERS SHALL CONFORM TO ASTM A123.
 - COLUMN ANCHOR ROD HOLES SHALL BE OVERSIZED IN ACCORDANCE WITH THE FOLLOWING:

ROD DIAMETERS	3/4 INCH TO ONE INCH	5/16 INCH OVERSIZE
ROD DIAMETERS ONE INCH TO 2 INCHES	1/2 INCH OVERSIZE	
ROD DIAMETERS OVER 2 INCHES	ONE INCH OVERSIZE	
- ## 9.0 WOOD TRUSSES
- WOOD TRUSS DESIGNS ARE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER AND ITS DESIGN ENGINEER LICENSED IN THE PROJECT STATE.
 - ALL ERECTION DRAWINGS, SHOP DRAWINGS, MANUAL CALCULATIONS, AND COMPUTER PRINTOUTS SHALL BEAR THE SEAL AND SIGNATURE OF THE DESIGN ENGINEER AND PREPARED THEM.
 - DESIGN ALL ROOF TRUSSES AND FRAMING MEMBERS WITH A MINIMUM 10 PSF DEAD LOAD APPLIED ALONG THE TOP CHORD AND A MINIMUM 10 PSF DEAD LOAD APPLIED ALONG THE BOTTOM CHORD. IN ADDITION, PROVIDE FOR CONCENTRATED MECHANICAL LOADS AND OTHER CONCENTRATED LOADS FROM ITEMS SHOWN ON DRAWINGS OF OTHER DISCIPLINES.
 - DESIGN TRUSSES FOR THE LIVE, SNOW AND WIND LOADS SPECIFIED IN THE BUILDING CODE. THE DESIGN OF THE TRUSS SHALL ASSUME A TOTAL DEAD LOAD OF 6.0 PSF ON THE TOP CHORD AND 3.0 PSF ON THE BOTTOM CHORD WHEN CONSIDERING WIND LOADS.
 - DESIGN ALL CONNECTIONS OF FRAMING MEMBERS TO EACH OTHER AND TO THE REST OF THE STRUCTURE UNLESS SPECIFICALLY DETAILED ON THE DRAWINGS.
 - TRUSS ERECTOR SHALL HAVE 5 YEARS EXPERIENCE IN THE ERECTION OF WOOD TRUSSES.
 - ERECTION AND TEMPORARY BRACING OF PREFABRICATED WOOD TRUSSES SHALL BE IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE TRUSS MANUFACTURER AND THE TRUSS PLATE INSTITUTE'S "BRACING WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS". FABRICATOR SHALL PROVIDE TP1 PUBLICATION AND ANY SPECIAL ERECTION INSTRUCTIONS TO THE CONTRACTOR AT THE TIME OF DELIVERY.
 - COORDINATE GEOMETRY OF WOOD TRUSS MEMBERS WITH MECHANICAL, ELECTRICAL, SPRINKLER, ARCHITECTURAL AND BUILDING CODE REQUIREMENTS. ALL AREAS WHERE TRUSSES ARE NOT SPECIFICALLY NOTED SHALL BE STICK FRAMED. VALLEY AND RIDGE SETS OF TRUSSES WILL NOT BE ALLOWED UNLESS WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ARCHITECT PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS.

NOTE TO WOOD TRUSS MANUFACTURER:
CONNECTION OF TRUSSES TO THE STRUCTURE SHALL BE COORDINATED WITH TRUSS MANUFACTURER UPON RECEIPT OF TRUSS SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE PROPOSED ATTACHMENT DETAILS & CONNECTORS ALONG WITH REACTIONS AT SUPPORT CONDITIONS IN ACCORDANCE WITH LOADS LISTED ON S0.1 SO THE ADEQUACY OF THE CONNECTION CAN BE REVIEWED.

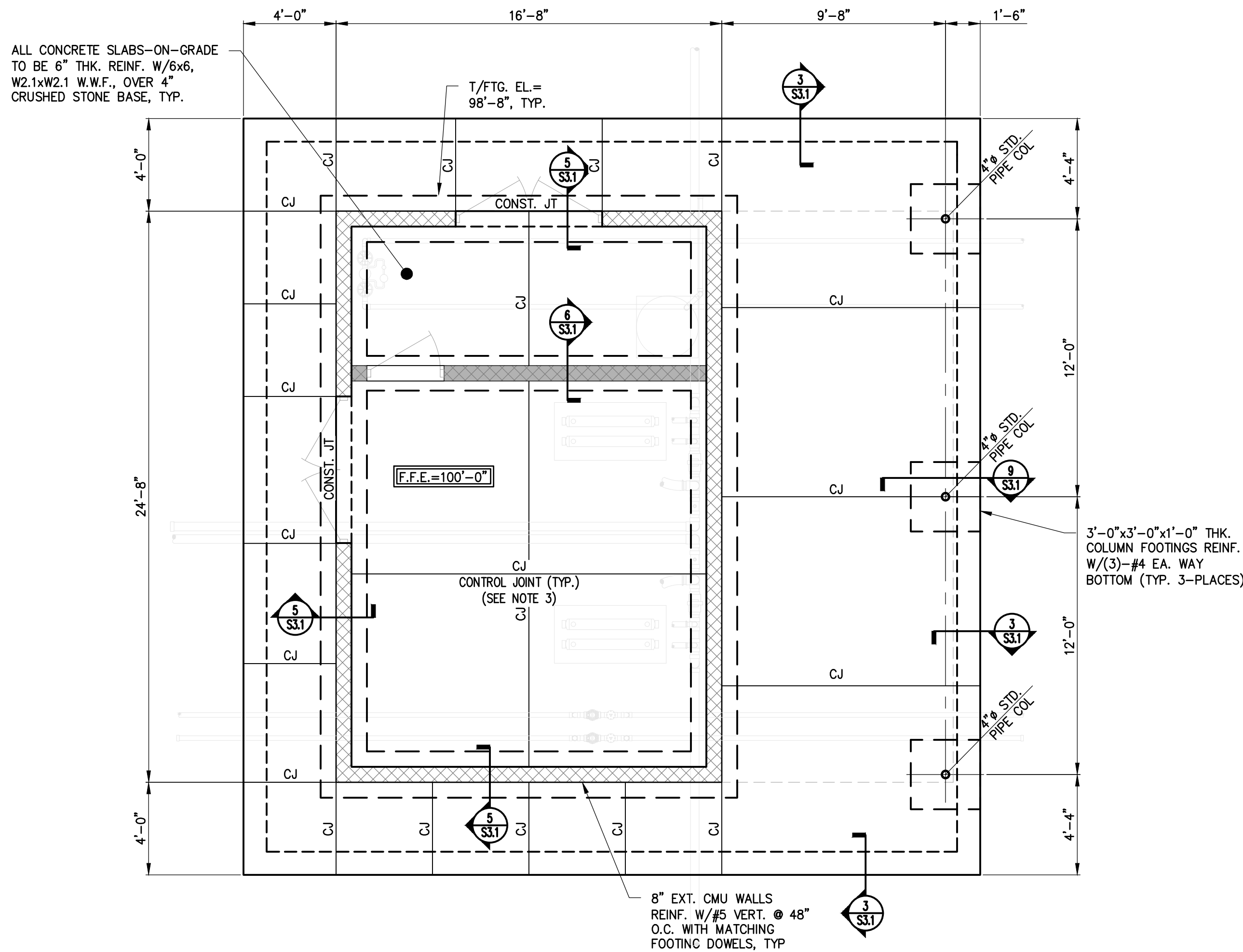


T1 TRUSS PROFILE

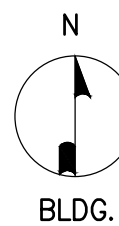


T2 TRUSS PROFILE

WOOD ROOF TRUSS PROFILES

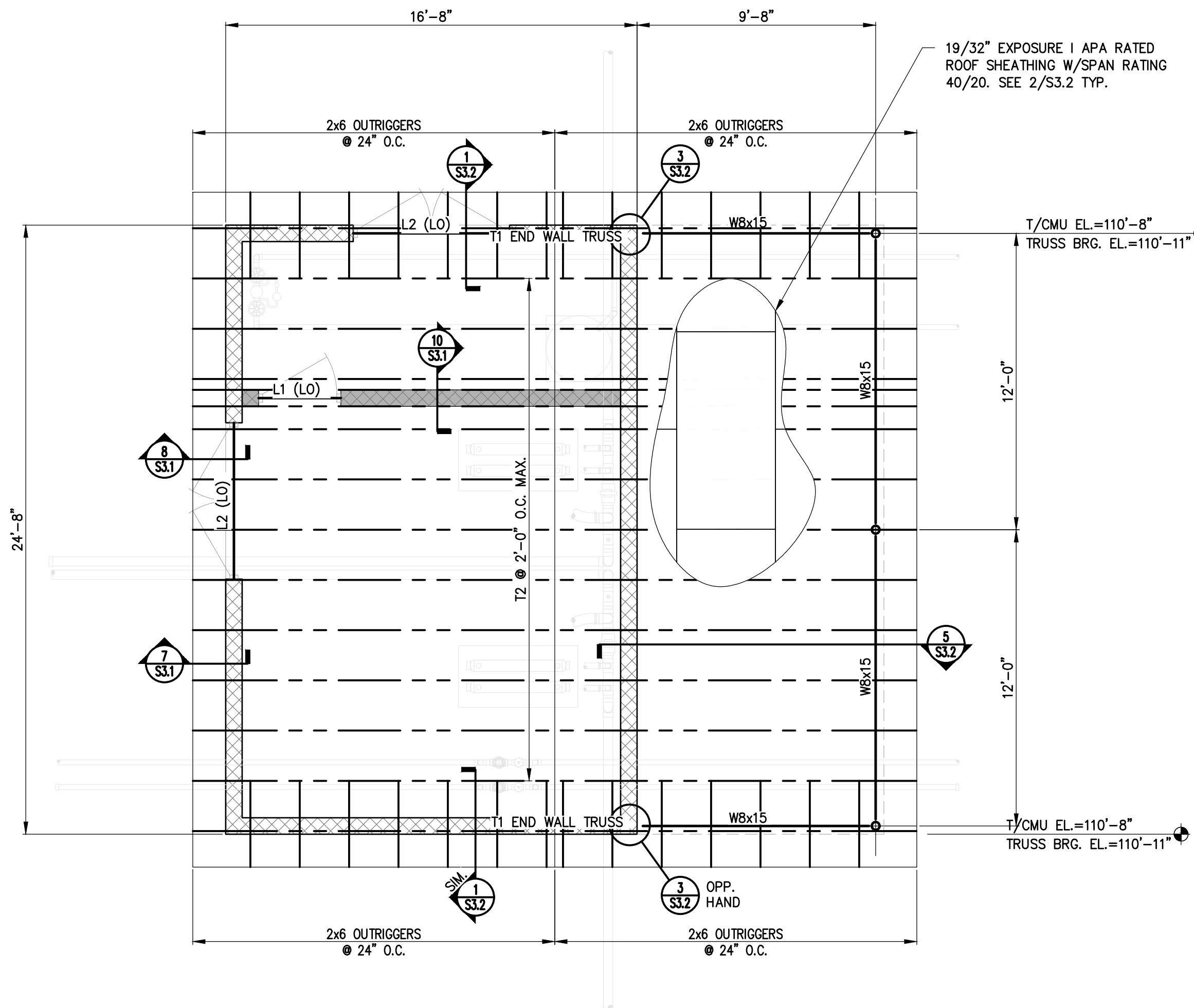


- FOUNDATION PLAN NOTES:
- ALL ELEVATIONS INDICATED ON THE STRUCTURAL DRAWINGS ARE REFERENCED FROM A FINISHED FLOOR DATUM ELEVATION AT THE GROUND FLOOR OF 100'-0". REFER TO CIVIL DRAWINGS FOR ACTUAL EQUIVALENT MEAN SEA-LEVEL FINISHED FLOOR ELEVATION.
 - REFER TO 1/S3.1 FOR TYPICAL FOOTING DETAILS.
 - REFER TO 2/S3.1 FOR JOINT DETAILS AT SLAB-ON-GRADE.
 - INTERIOR SLAB-ON-GRADE TO RECEIVE A TROWELED FINISH, EXTERIOR SLABS TO RECEIVE BROOM FINISH.
 - REFER TO 12/S3.1 FOR MINIMUM REINFORCING REQUIRED FOR CMU WALLS.
 - ALL STEEL BEAMS AND COLUMNS TO BE HOT DIPPED GALVANIZED.

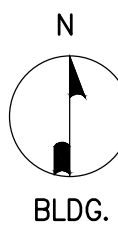


FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

WALL LEGEND	
	INDICATES 8" LOAD BEARING CMU WALL
	INDICATES 8" NON-LOAD BEARING CMU WALL

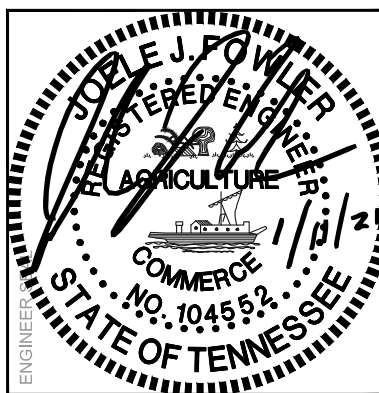


- ROOF FRAMING PLAN NOTES:
- ALL ELEVATIONS INDICATED ON STRUCTURAL DRAWINGS ARE REFERENCED FROM A FINISHED FLOOR DATUM ELEVATION AT THE GROUND FLOOR OF 100'-0". REFER TO CIVIL DRAWINGS FOR ACTUAL EQUIVALENT MEAN SEA LEVEL FINISH FLOOR ELEVATION.
 - L# DENOTES CMU BOND BEAM LINTEL. REFER TO 11/S3.1 FOR CMU BOND BEAM LINTEL SCHEDULE.
 - ROOF TRUSSES SHALL BE SPACED @ 2'-0" O.C. TYP. U.N.O.

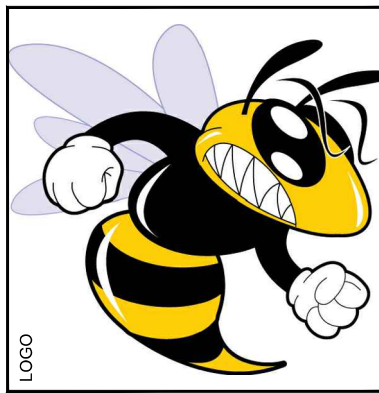


ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

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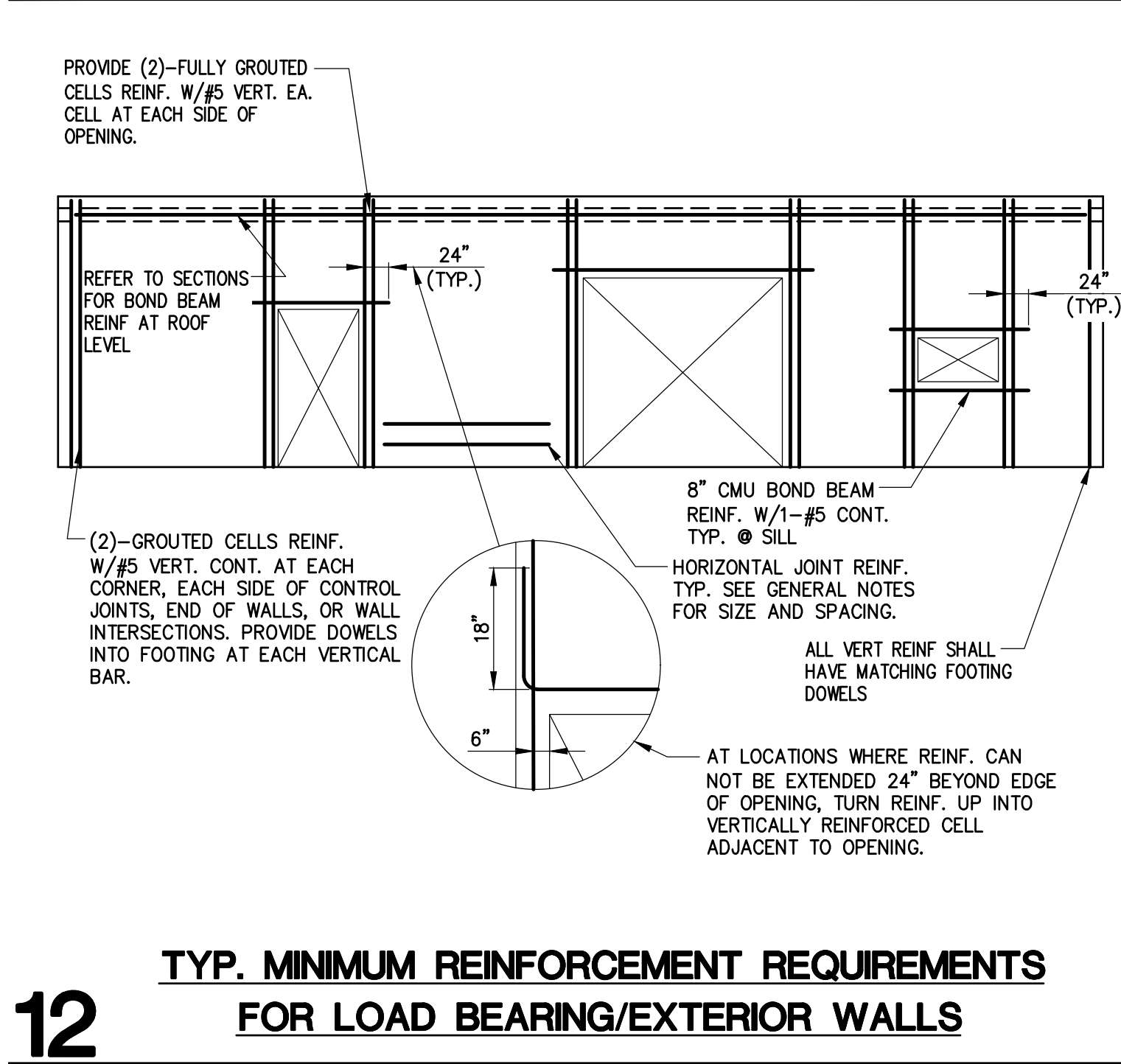
TOWN OF HUNTLAND
WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004



NORTH	DRAWN BY DJW
	APPROVED BY JJF

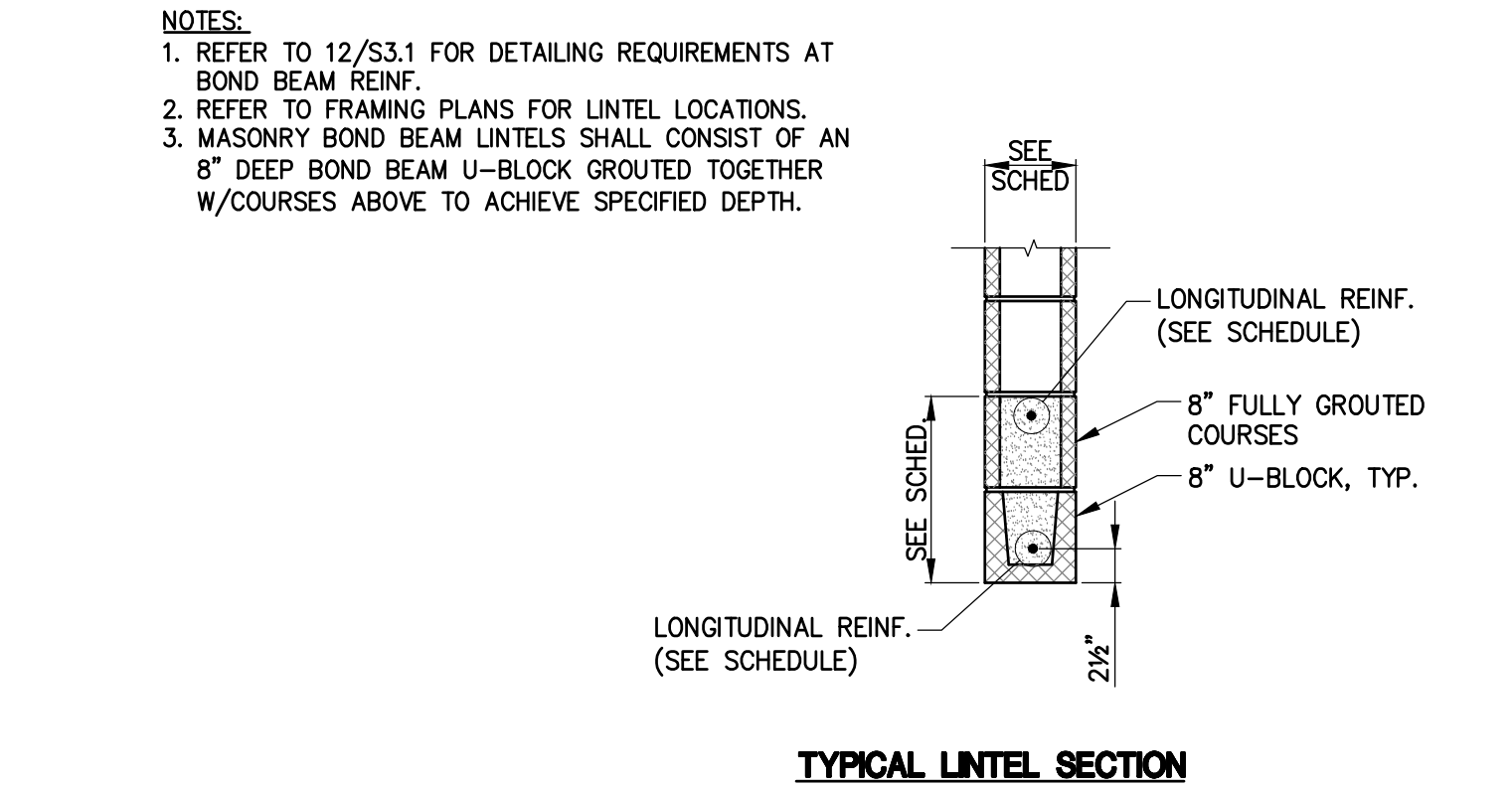
DATE	ISSUE
01.11.2021	CONSTRUCTION

TITLE
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DRAWING NO.
S2.1

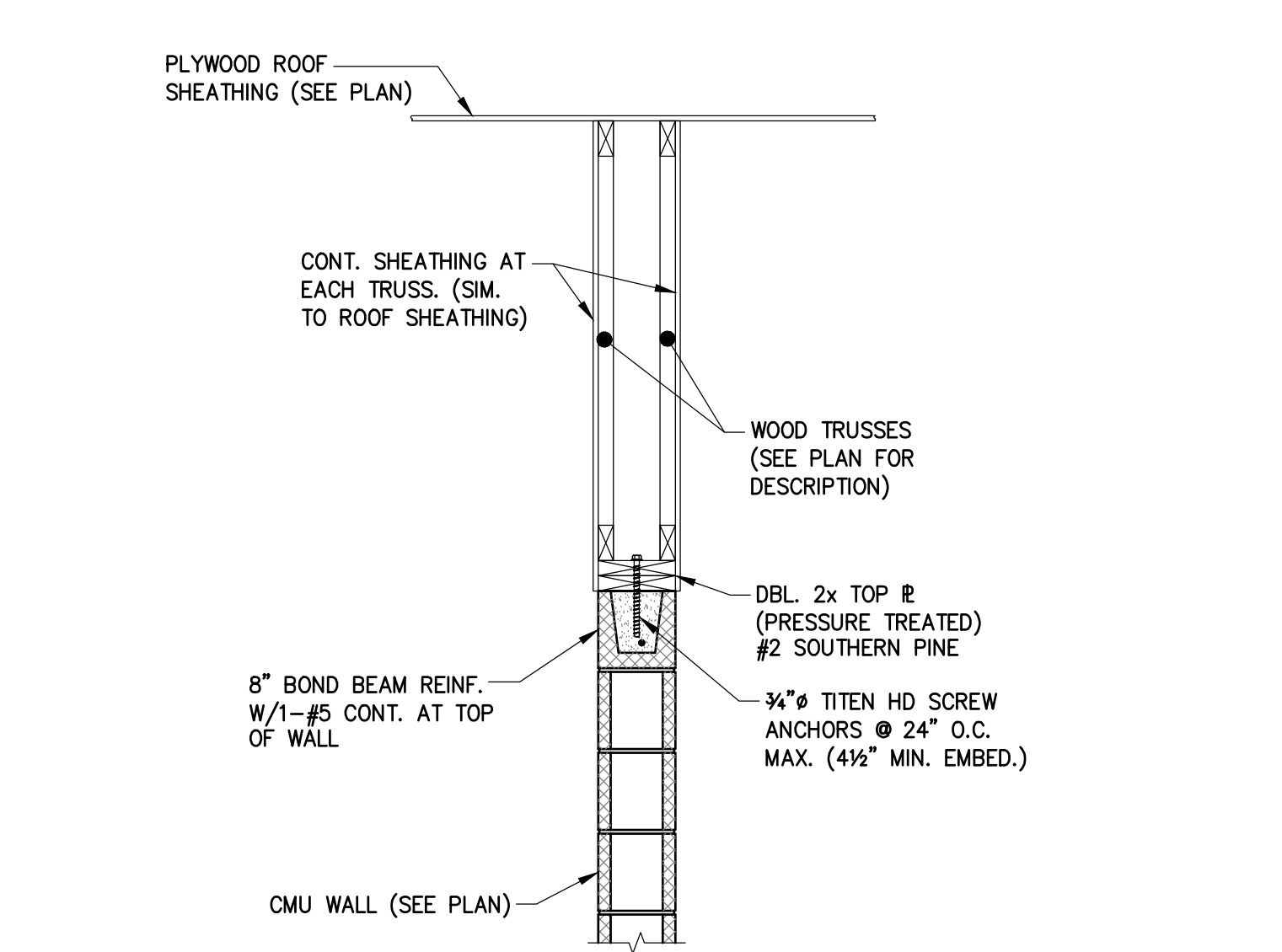


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MASONRY BOND BEAM LINTEL SCHEDULE				
LINTEL MARK	LINTEL DEPTH	WALL WIDTH	REINF. BARS (2½" BTM. COVER)	SHEAR REINF.
L1	8"	8"	#5 BOTTOM	NOT REQUIRED
L2	16"	8"	#5 TOP AND BOTTOM	NOT REQUIRED

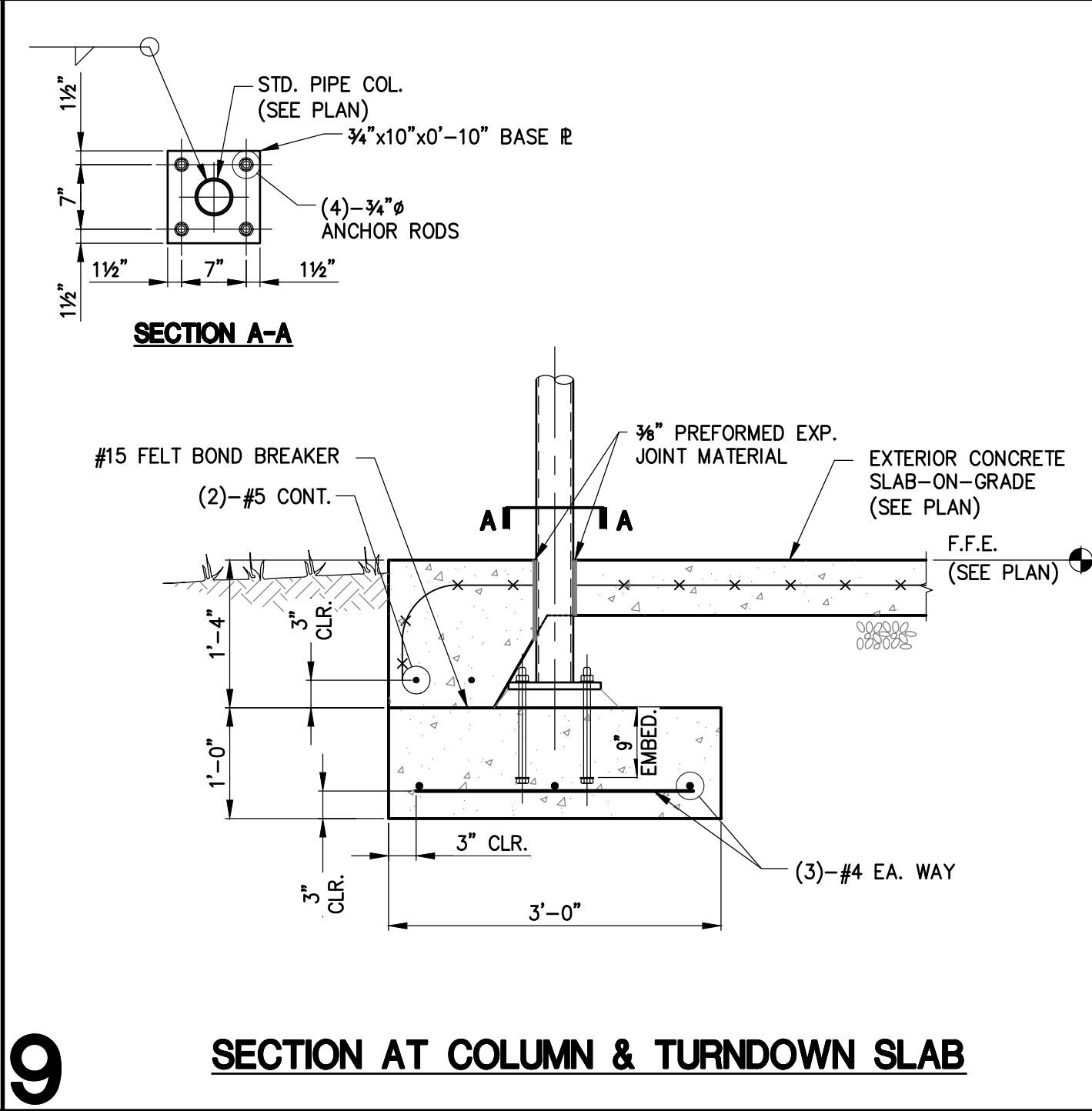


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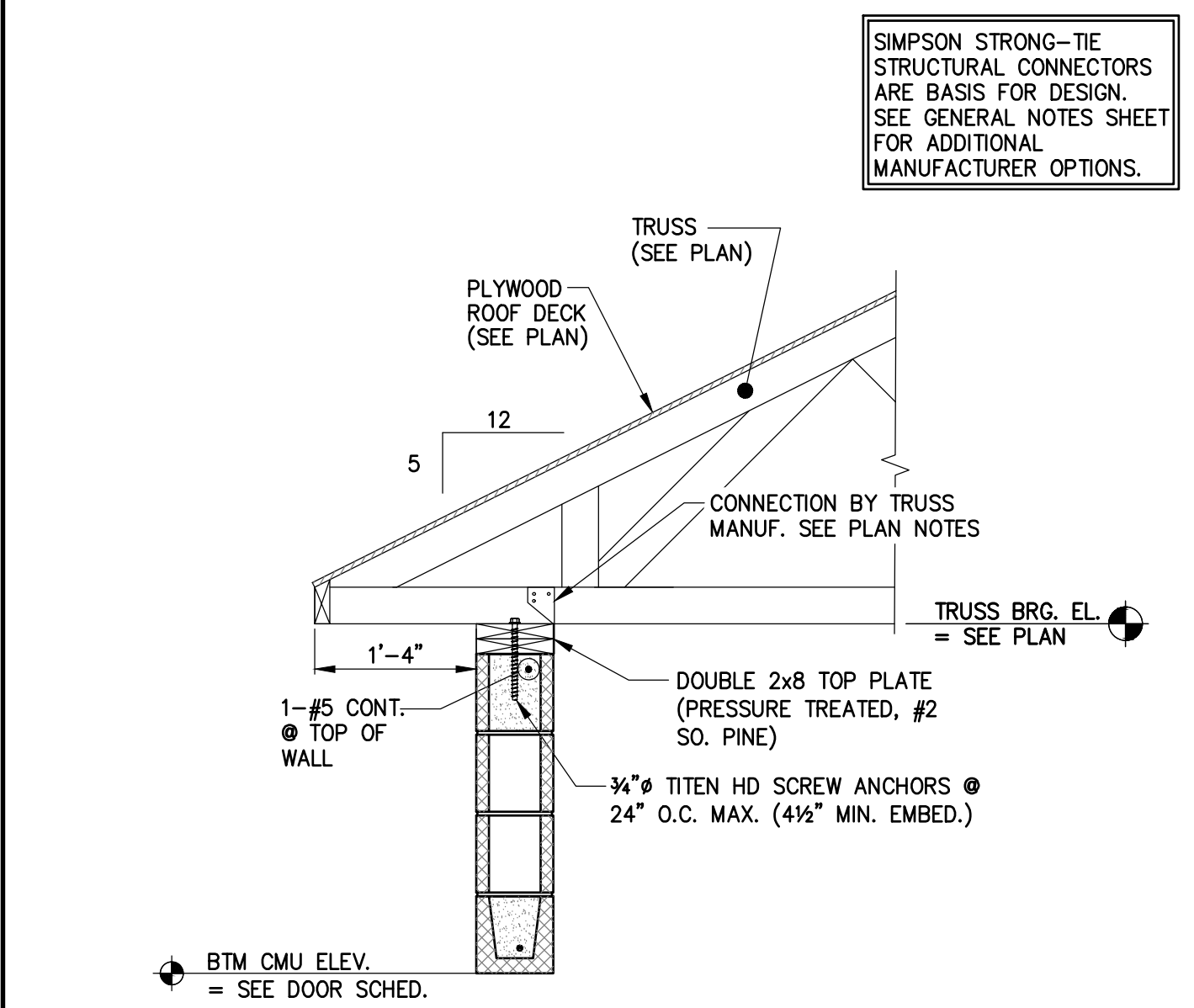


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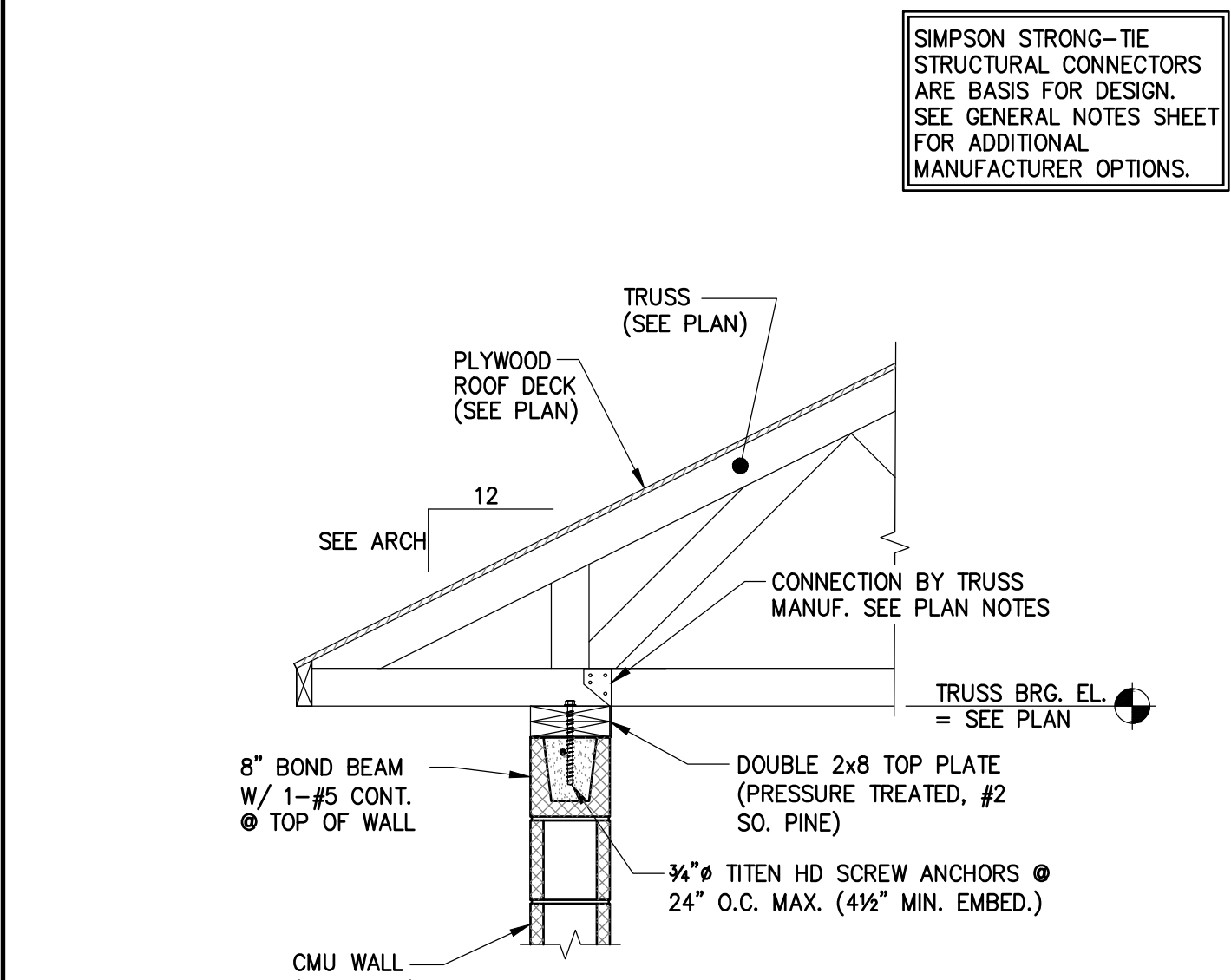
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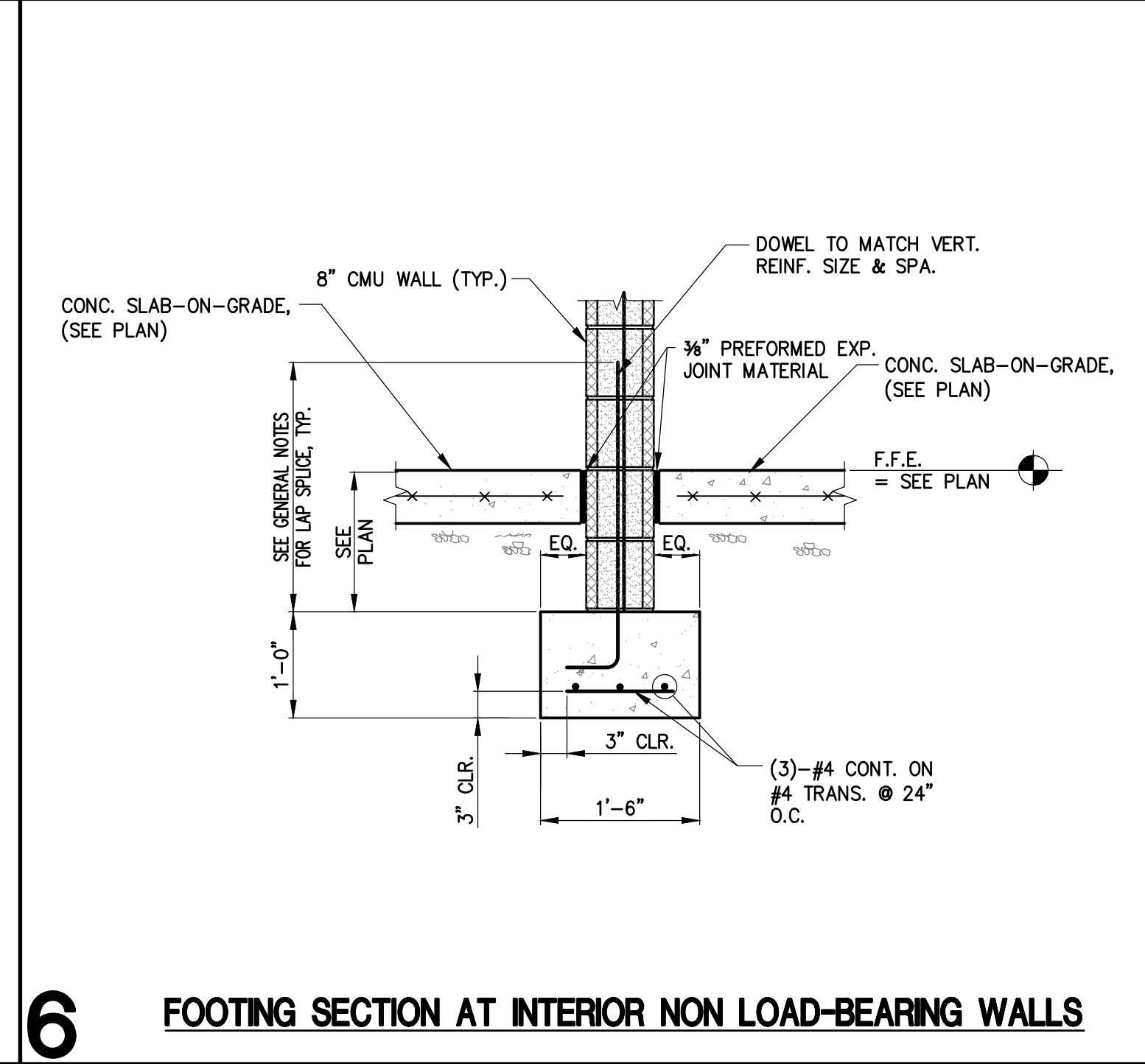
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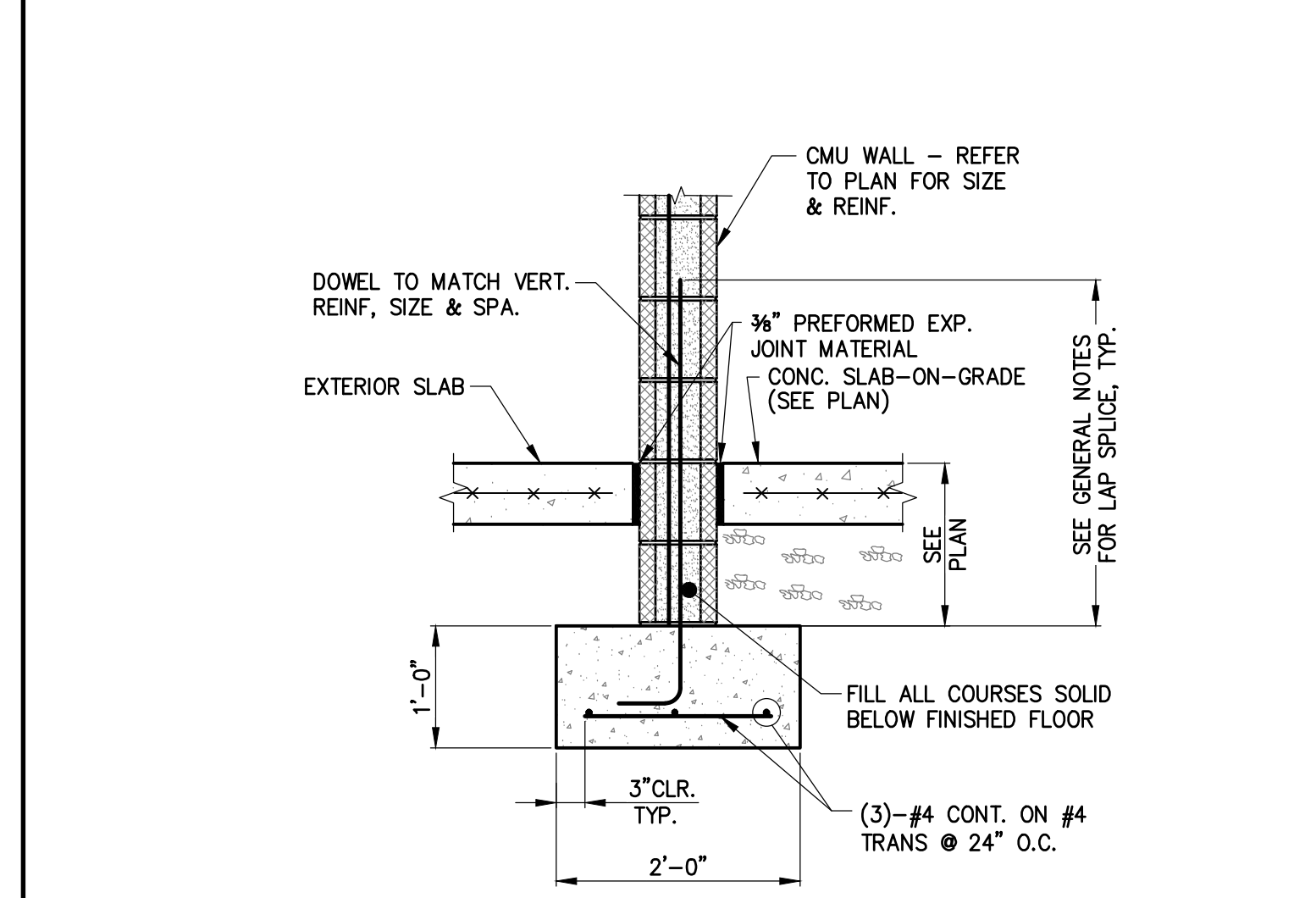
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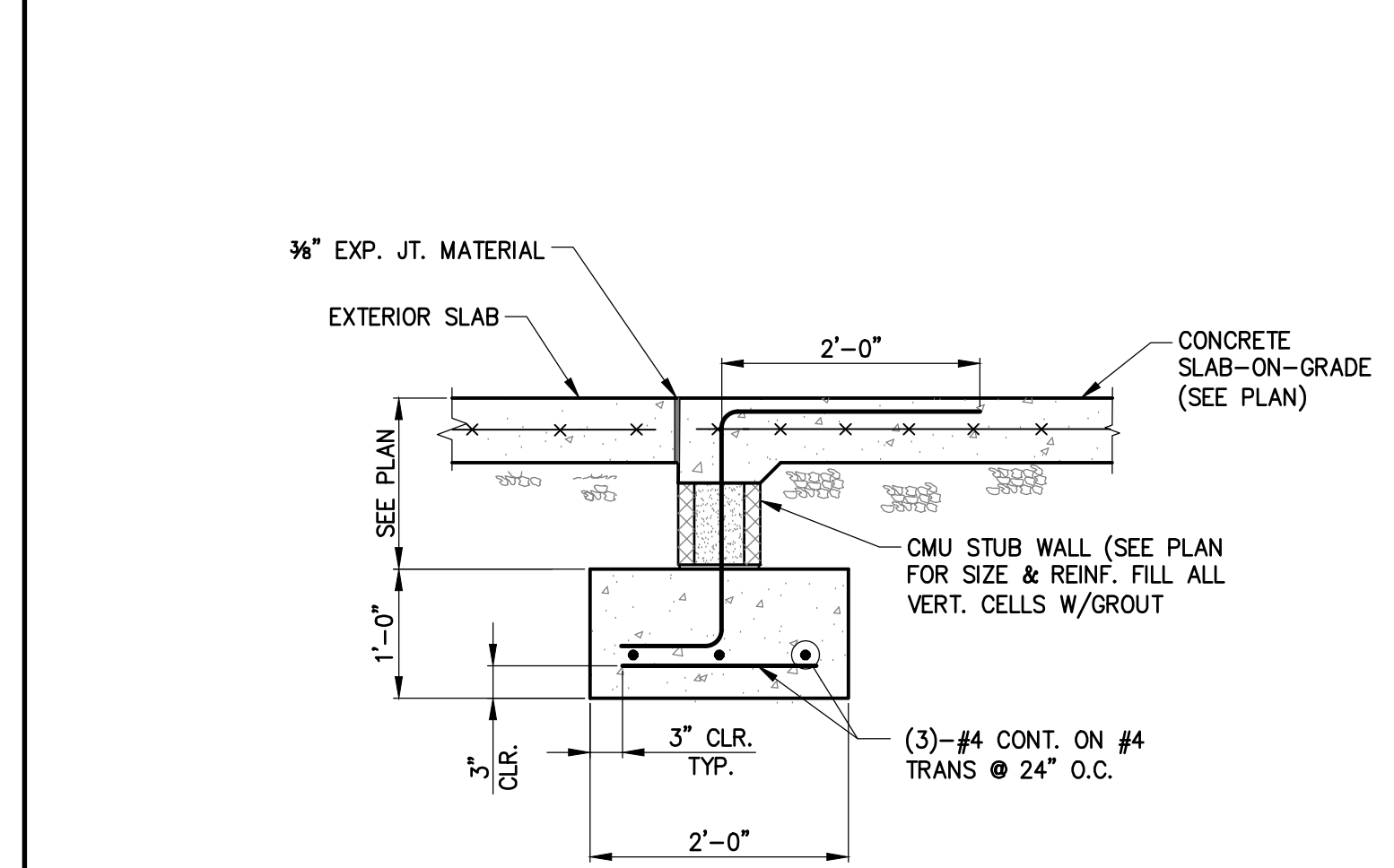
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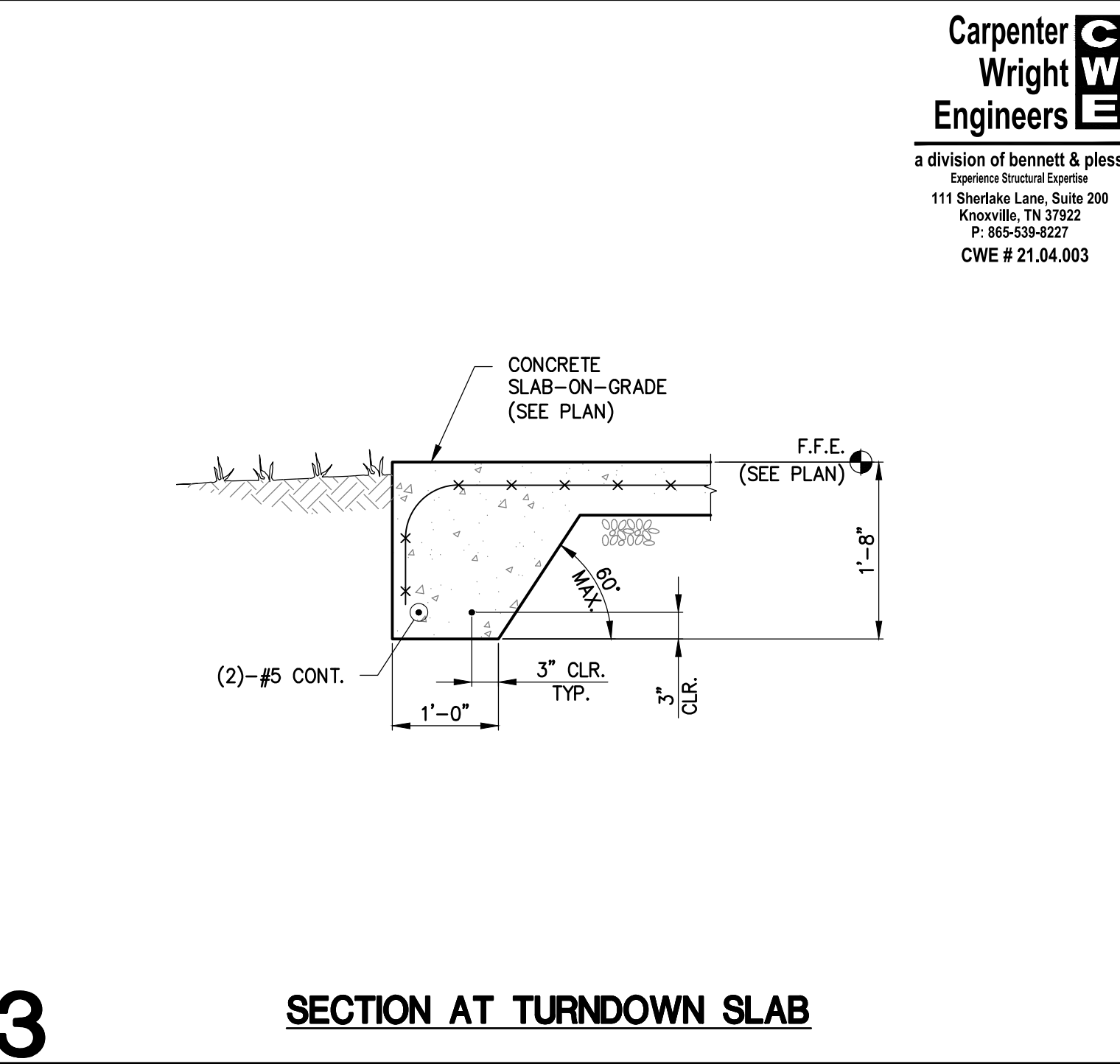
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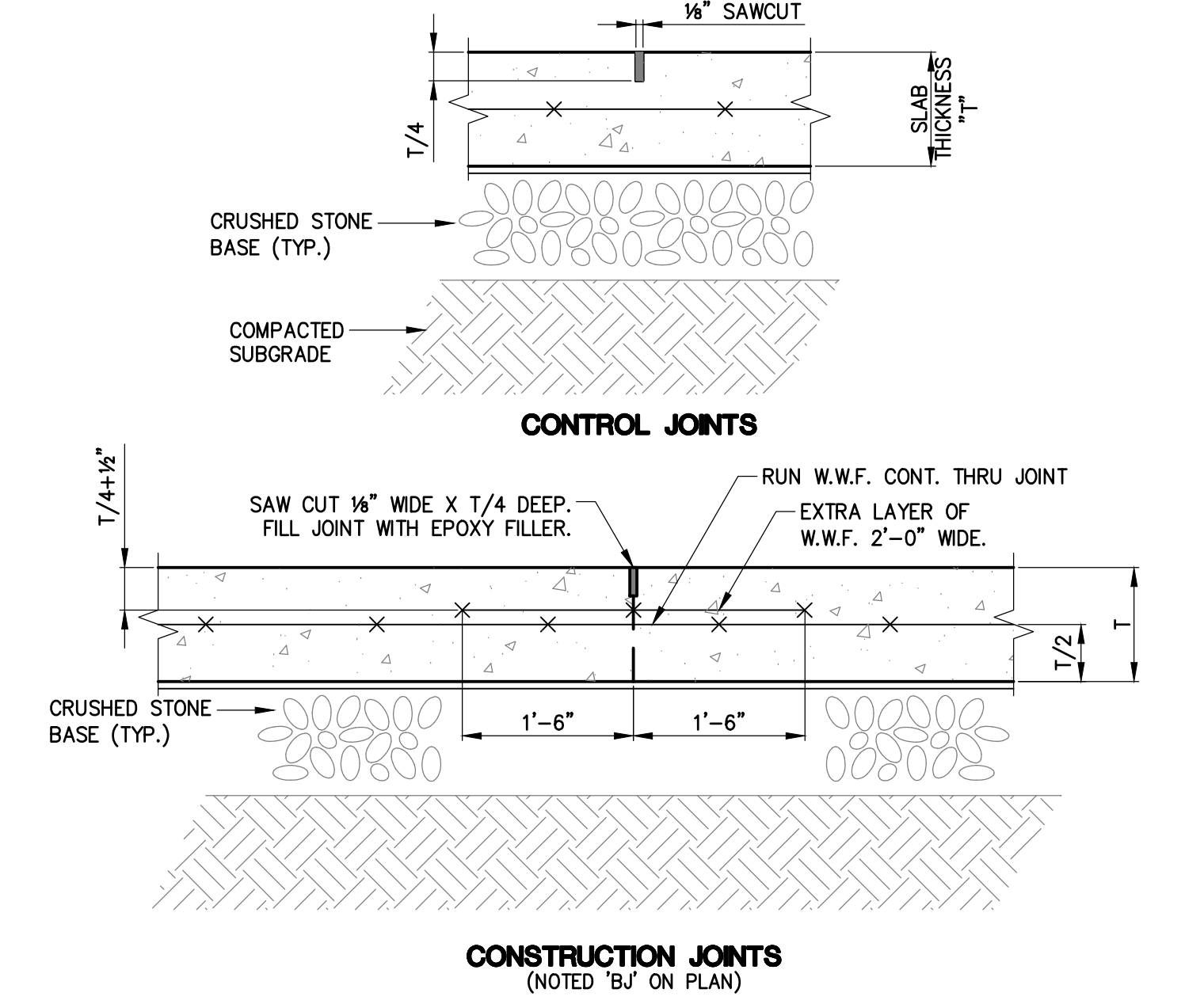
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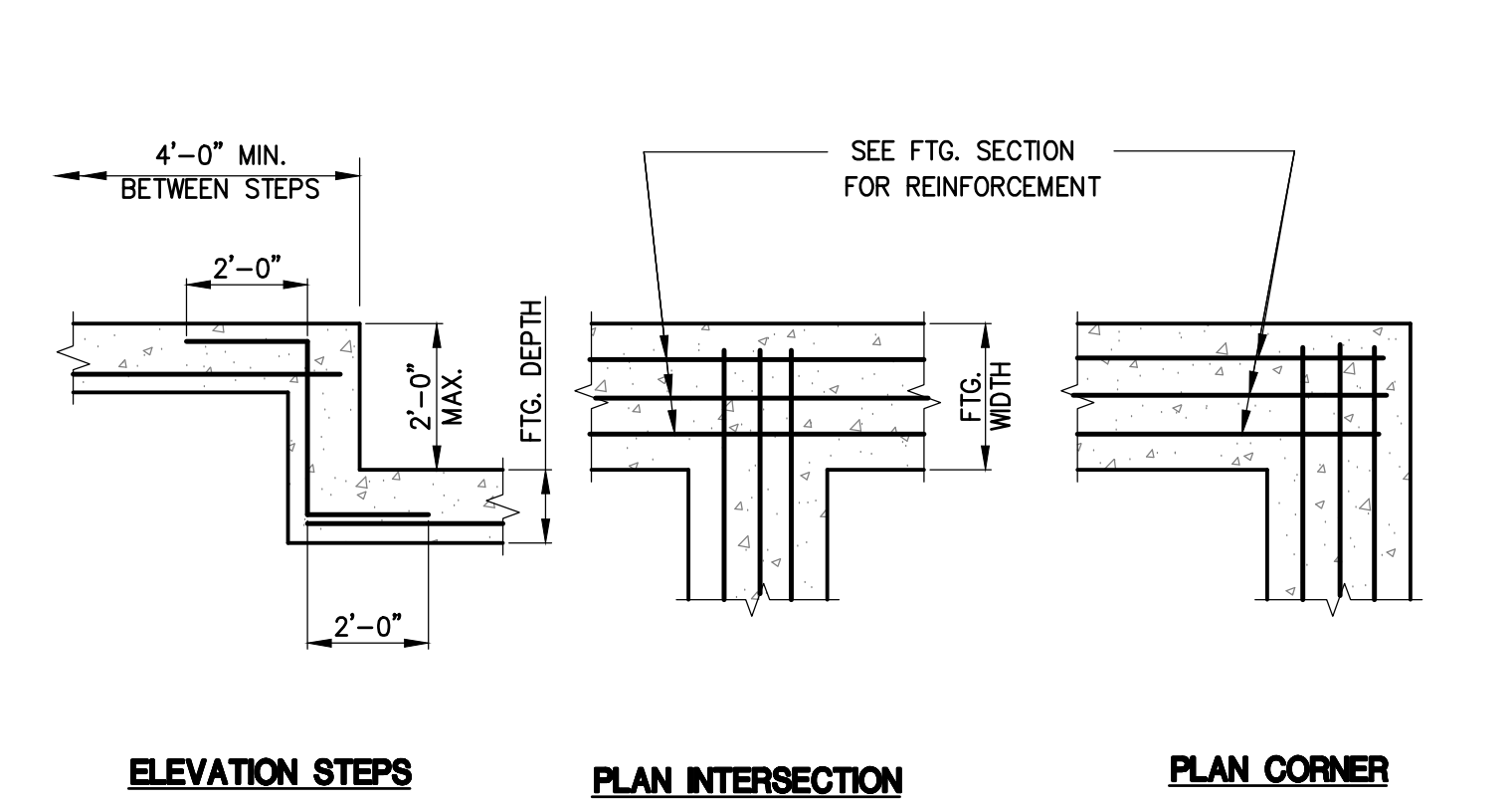
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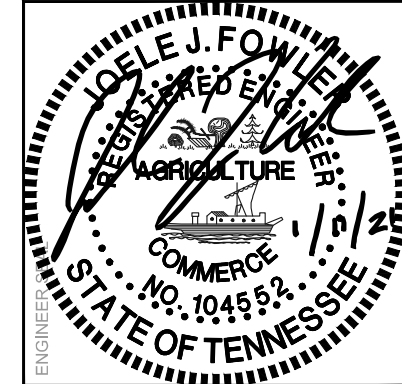


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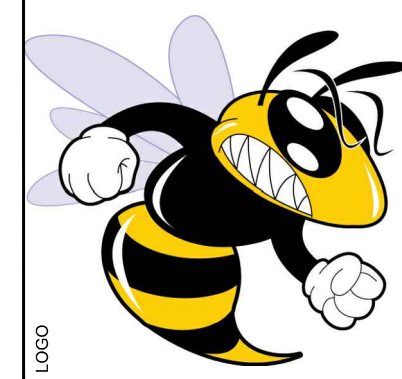


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WASTEWATER TREATMENT PLANT
AND DRIP DISPERSAL FACILITIES
3700-004



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SECTIONS AND DETAILS
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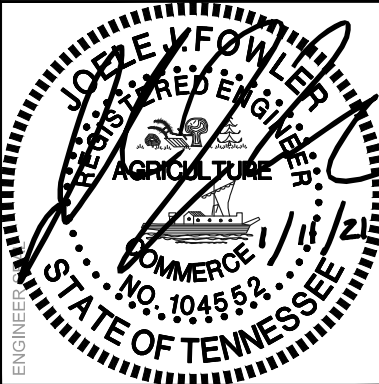
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CWE # 21.04.003

NOTES:
1. RUN LONG DIMENSION OF PLYWOOD SHEETS PERPENDICULAR TO TRUSSES OR STICK FRAMING. PROVIDE BLOCKING AT ALL PANEL JOINTS NOT SUPPORTED BY PRIMARY FRAMING MEMBERS FOR EDGE SUPPORT.
2. STAGGER PLYWOOD END JOINTS 4'-0" AS SHOWN.
3. NAILING SHALL BE AS FOLLOWS WITH 10D NAILS, U.N.O. (1½" PENETRATION INTO FRAMING, MIN.)
A. BOUNDARY – (B.N.) 6" O.C. AT ROOF PERIMETER, PLATE LINES, CHORDS, STRUTS, MASONRY WALLS, RIDGE LINES, AND AS CALLED FOR ON THE DWGS.
B. EDGE – (E.N.) 6" O.C. AT BEARING ENDS OF EACH PLYWOOD SHEET AND ALL SIDE PANEL JOINTS. NAILS SHALL BE STAGGERED.
C. FIELD – (F.N.) 12" O.C. AT ALL INTERMEDIATE BEARINGS.
4. ALL NAILS SHALL HAVE A MINIMUM EDGE DISTANCE OF ¾".
5. B.N. ALL BLOCKING AT BEAMS, TRUSSES, OR STICK FRAMING THAT ALIGN WITH BRACED WALL PANELS, FULL LENGTH OF BUILDING. E.N. AT PERIMETER OF ALL OPENINGS THRU SHEATHING.
6. NOMINAL PANEL THICKNESS: ¾".
7. 2"x MIN. FRAMING MEMBER FOR TRUSS TOP CHORD. ¾" PLYWOOD, STRUCTURAL I OR RATED OSB (DOC PS1 OR PS2).

TYPICAL BLOCKED PLYWOOD ROOF DIAPHRAGM

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9

6

3

SECTION A-A

SECTION AT BEAM BEARING

WALL SECTION AT GABLE END

8

5

ROOF FRAMING DETAIL

1

WALL SECTION AT GABLE END

HEAT, VENTILATING, AND AIR CONDITIONING SPECIFICATION

PART 1 – GENERAL

1.1 GENERAL PROVISIONS

- A. PROVIDE ALL LABOR, TOOLS, AND MATERIAL TO CONSTRUCT A COMPLETE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS HEREIN SPECIFIED AND SHOWN ON THE DRAWINGS; PROVIDE EVERYTHING NECESSARY FOR A COMPLETE AND SATISFACTORY INSTALLATION, WHETHER OR NOT SPECIFICALLY SHOWN OR SPECIFIED. THIS INCLUDES ALL MISCELLANEOUS PARTS, DEVICES, CONTROLS, AND APPURTENANCES WHICH ARE REQUIRED TO COMPLETE THE JOB IN A SAFE AND PROPER OPERATING CONDITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE LOCAL MECHANICAL CODE, NFPA 90A, AND ALL STATE AND LOCAL CODES AND REGULATIONS. PAY ALL FEES AND PERMITS. ALL EQUIPMENT SHALL BE UL OR ASME APPROVED AND BEAR SUCH LABEL WHERE APPROVAL IS APPLICABLE.
- B. THE CONTRACTOR SHALL EXAMINE THE GENERAL AND SUPPLEMENTARY CONDITIONS, ALL OTHER CONTRACT DOCUMENTS, AND EXAMINE THE EXISTING CONDITIONS AT THE BUILDING SITE TO FAMILIARIZE THEMSELVES WITH THE PROVISIONS THEREIN AFFECTING THE MECHANICAL WORK.
- C. THIS CONTRACTOR IS REQUIRED TO SUBMIT TO THE ARCHITECT FOR APPROVAL A DIGITAL PDF SET OF MANUFACTURER'S SUBMITTAL DATA FOR ALL EQUIPMENT.
- D. IN ADDITION TO MANUFACTURER'S WARRANTY, THE CONTRACTOR SHALL WARRANT EQUIPMENT AND WORKMANSHIP FOR ONE YEAR AFTER ACCEPTANCE AND SHALL MAKE GOOD ANY DEFECT IN MATERIAL AND WORKMANSHIP DURING THIS PERIOD WITHOUT COST TO THE OWNER.

1.2 CERTIFICATION

- A. ALL ELECTRICAL COMPONENTS SHALL BE UL LABELED.
- B. ALL UNITS SHALL BE RATED UNDER ARI CERTIFICATION PROGRAM.

1.3 CLEANING

- A. GENERAL:
1. UPON COMPLETION OF THE CONTRACT AND PROGRESSIVELY AS THE WORK PROCEEDS, CLEAN UP ALL DIRT, DEBRIS, OIL, MATERIALS, ETC., AND REMOVE IT FROM THE SITE, KEEPING PREMISES IN A NEAT AND CLEAN CONDITION TO THE SATISFACTION OF THE ARCHITECT. SEE GENERAL CONDITIONS.
2. THOROUGHLY CLEAN ALL DUCTS, AIR DISTRIBUTION DEVICES AND APPARATUS CASINGS BEFORE FANS AND FILTERS ARE OPERATED. CLEAN OR RENEW ALL FILTERS AFTER THE EQUIPMENT HAS BEEN TESTED AND BEFORE TURNING OVER TO OWNER.
3. ALL FACTORY APPLIED FINISHES, IF NOT TO BE REPAINTED, SHALL BE TOUCHED-UP, COVERING ALL BARE PLACES, SCRATCHES, ETC.

PART 2 – PRODUCTS

2.1 CONTROL WIRING

- A. ALL CONTROL WIRING TO BE FURNISHED AND INSTALLED BY THE MECHANICAL INSTALLER. ALL POWER WIRING SHALL BE BY THE ELECTRICAL INSTALLER.

2.2 DUCTWORK

- A. ALL DUCTWORK SHALL BE GALVANIZED STEEL, CONSTRUCTED IN ACCORDANCE WITH THE CURRENT SMACNA "HVAC DUCT CONSTRUCTION STANDARDS –METAL AND FLEXIBLE". SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
- H. DUCT SEALANT: NON-HARDENING MIGRATING MASTIC OR LIQUID ELASTIC SEALANT, TYPE APPLICABLE FOR FABRICATION/INSTALLATION DETAIL, AS COMPOUNDED AND RECOMMENDED BY MANUFACTURER SPECIFICALLY FOR SEALING JOINTS AND SEAMS IN DUCTWORK.

2.3 SEALANT MATERIALS

- A. WATER-BASED JOINT AND SEAM SEALANT: FLEXIBLE, ADHESIVE SEALANT, RESISTANT TO UV LIGHT WHEN CURED, UL 723 LISTED, AND COMPLYING WITH NFPA REQUIREMENTS FOR CLASS 1 DUCTS.
- B. FLANGE GASKETS: BUTYL RUBBER OR EPDM POLYMER WITH POLYISOBUTYLENE PLASTICIZER.

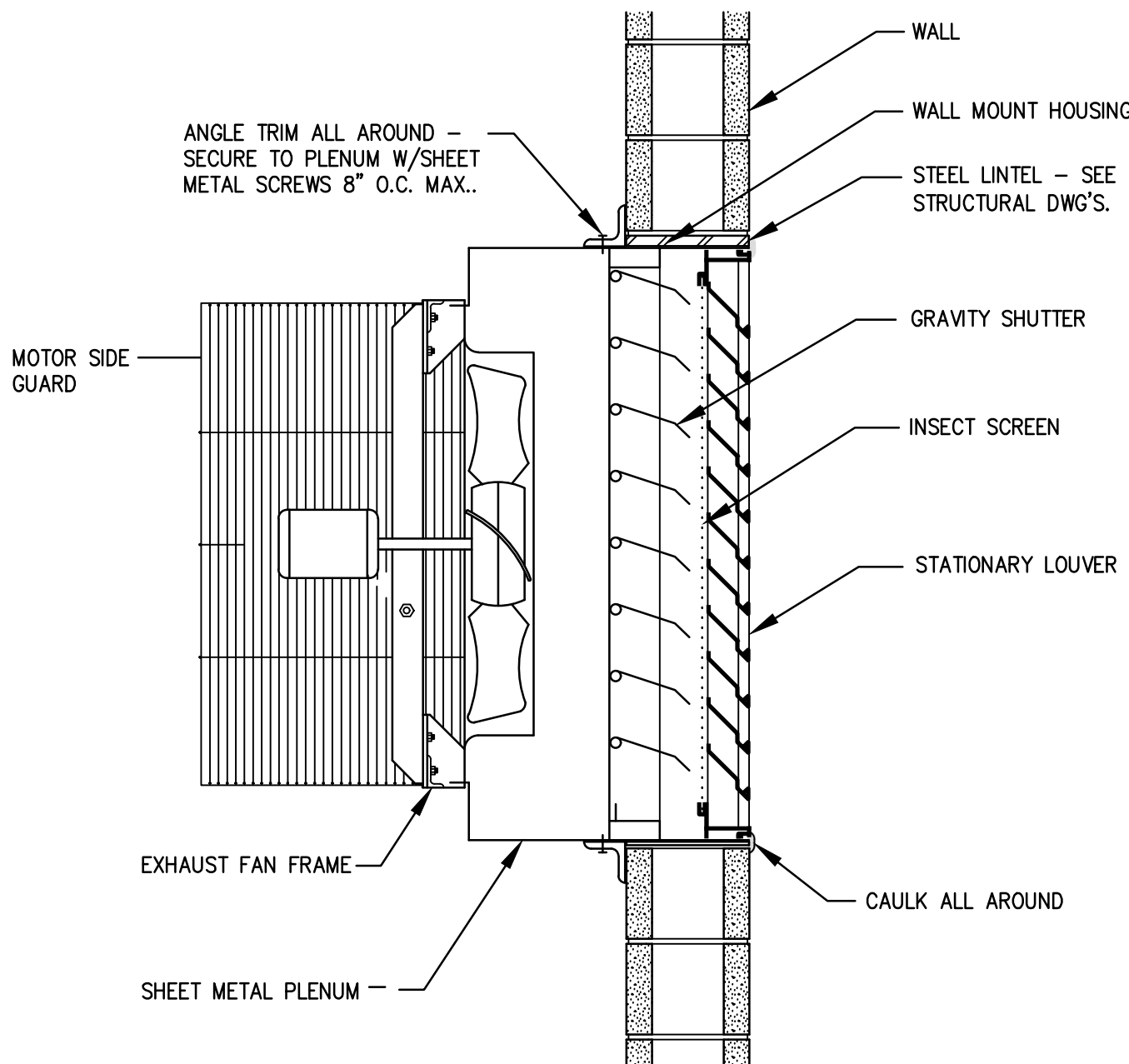
PART 3 – EXECUTION

3.1 TESTS

- A. TEST AND MAKE NECESSARY ADJUSTMENTS ON ALL AIR CONDITIONING EQUIPMENT TO CONFORM TO MANUFACTURER'S INSTRUCTIONS. FURNISH ALL LABOR, FUEL, AND ENERGY FOR TESTING.
- B. PLACE EACH BLOWER OR EXHAUST FAN IN OPERATION AND MAKE REQUIRED ADJUSTMENT FOR CORRECT SPEED AND QUIET OPERATION. ADJUST ALL BALANCING DAMPERS SO THAT AIR DELIVERED TO OR EXHAUSTED FROM EACH ROOM COMPLIES WITH AMOUNTS INDICATED WITHIN 10%. TEST TO BE PERFORMED BY AN INDEPENDENT AABC OR NEBB CERTIFIED BALANCING COMPANY. PROVIDE BALANCE REPORT LISTING AIR VOLUME FOR EACH ITEM OF AIR CONDITIONING AND AIR HANDLING EQUIPMENT.

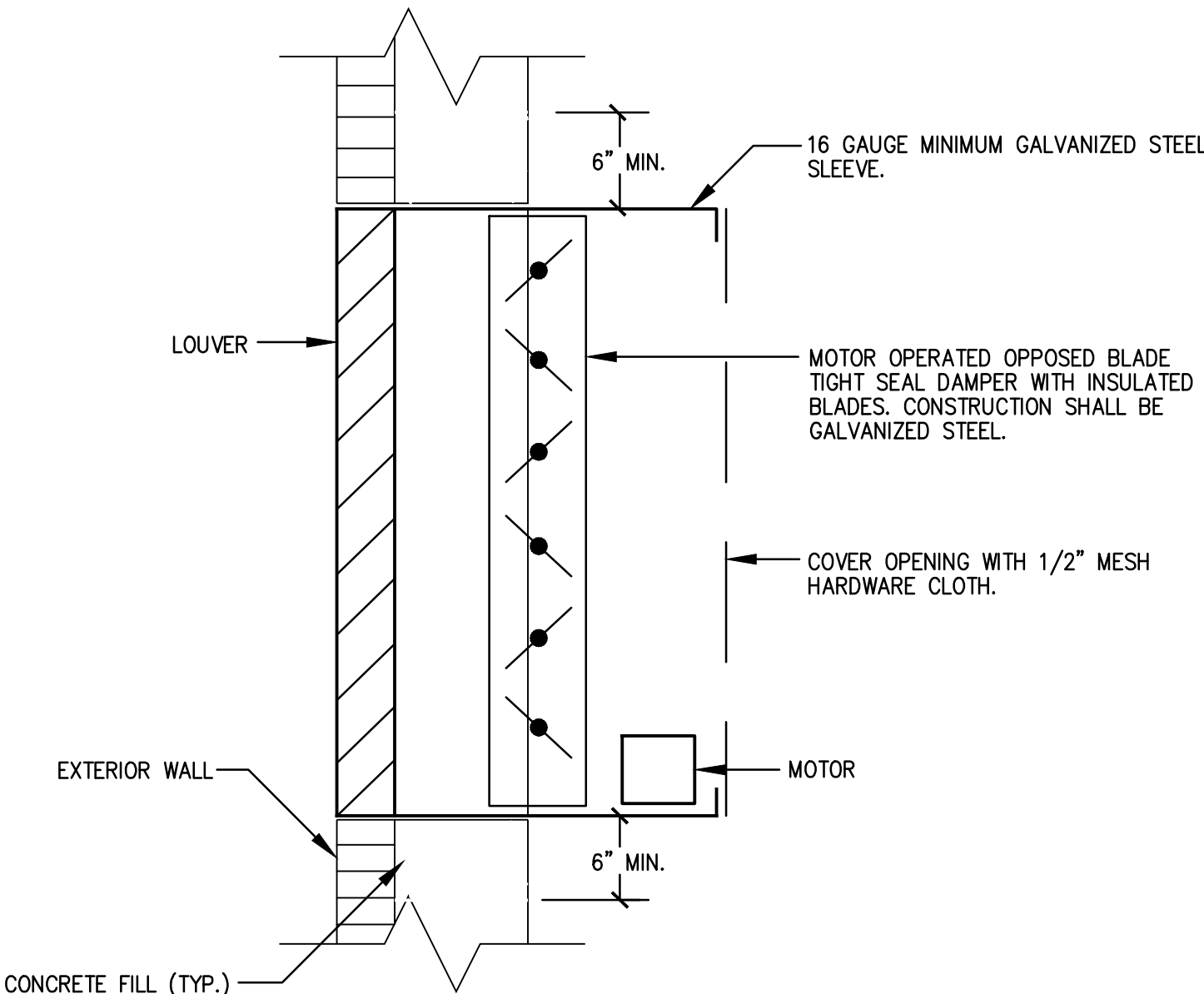
3.2 PROJECT CLOSEOUT

- A. BEFORE REQUESTING FINAL INSPECTION, THE FOLLOWING ITEMS MUST BE COMPLETED:
1. COMPLETE ALL WORK REQUIRED UNDER THIS DIVISION OF THE SPECIFICATIONS EXCEPT AS MAY BE PERMITTED HEREINAFTER.
2. SUBMIT TEST AND BALANCE REPORT FOR ALL AIR SYSTEMS.
3. SUBMIT SPECIFIC WARRANTIES AND ANY MAINTENANCE AGREEMENTS.
4. DELIVER TOOLS, SPARE PARTS, EXTRA STOCK, AND SIMILAR ITEMS.
5. INSTALL ALL ITEMS OF IDENTIFICATION ON ALL EQUIPMENT.
- B. BEFORE REQUESTING FINAL PAYMENT, THE FOLLOWING ITEMS MUST BE COMPLETED:
1. SUBMIT OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS.
2. DEMONSTRATE TO OWNER'S REPRESENTATIVE THE PROPER OPERATION OF ALL EQUIPMENT AND SYSTEMS.



WALL EXHAUST FAN DETAIL

SCALE: N.T.S.



TYP. EXTERIOR WALL LOUVER
INSTALLATION DETAIL

SCALE: N.T.S.

MECHANICAL LEGEND

STANDARD ABBREVIATIONS AND NOTATIONS			
CD	CEILING DIFFUSER	EX	EXHAUST DUCTWORK
CE	CEILING EXHAUST	FA	FROM ABOVE
CR	CEILING RETURN	FFE	FINISHED FLOOR ELEVATION
DN	DOWN	NIC	NOT IN CONTRACT
ER	EXHAUST REGISTER	OA	OUTDOOR AIR DUCTWORK
RE	RETURN DUCTWORK	RR	RETURN REGISTER
SR	SUPPLY REGISTER	SU	SUPPLY DUCTWORK

SYMBOL	DESCRIPTION
	2 POSITION MOTOR OPERATED GALVANIZED STEEL OPPOSED BLADE DAMPER WITH TIGHT SEAL INSULATED BLADES, TRANSFORMER, AND/OR RELAY, AND ALL OTHER REQUIRED ACCESSORIES. LOUVERS AND DAMPERS MODEL TSD-400 UD-1. VOLTAGE 120/1/60.
	EQUIPMENT TAG
	ELECTRICAL PANEL – AVOID INSTALLING EQUIPMENT IN PANEL BOARD SPACE PER ARTICLE 110 OF THE NATIONAL ELECTRIC CODE.
	THERMOSTAT – XXX-1
	REFER TO NOTE #1

EXHAUST FAN SCHEDULE

DRAWING SYMBOL	USE	AMCA CFM	S.P. IN WATER	RPM	TIP SPEED	HP	TYPE	VOLTAGE	SONES	WEIGHT LBS.	MANUFACTURER & MODEL#
	VENTILATION	180	0.25	949	--	1/6	WALL	120/1	6.6	75	COOK 12XPH36D11
	VENTILATION	500	0.25	1140	--	1/6	WALL	120/1	7.7	82	COOK 16XPH21D11

ACCESSORIES AND FEATURES:

- WALL FANS: WALL SHUTTER (HEAVY DUTY); WALL COLLAR; MOTOR SIDE GUARD; DISCONNECT Ⓢ FAN.

LOUVER SCHEDULE

DRAWING SYMBOL	LOUVER SIZE (WIDTH X HEIGHT)	CFM	MINIMUM SQ/FT FREE AREA	MAXIMUM PRESSURE DROP (IN. WG)	MANUFACTURER & MODEL#	NOTES
	18x12	180	0.28	0.06	RUSKIN ELC6375D	SEE BELOW
	18x18	500	0.76	0.06	RUSKIN ELC6375D	SEE BELOW

NOTES AND FEATURES:

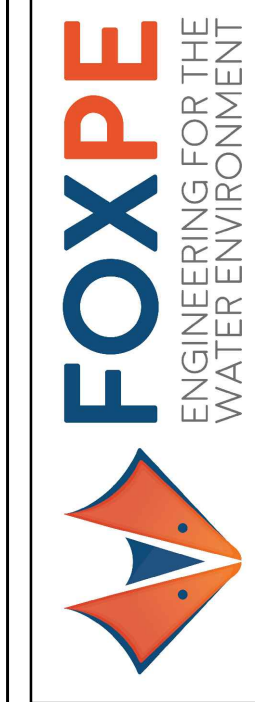
- LOUVERS SHALL BE BEAR AMCA SEAL AND SHALL BE TESTED IN ACCORDANCE WITH AMCA 5111.
- WATER PENETRATION THROUGH LOUVER SHALL NOT OCCUR BELOW 1000 FPM (FREE AREA)

ELECTRIC HEATER SCHEDULE

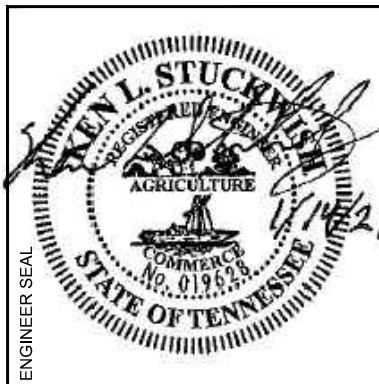
DRAWING SYMBOL	TYPE	KW	CFM	VOLTAGE/PHASE	FAN R.P.M.	FAN HP	MANUFACTURER & MODEL#
	UNIT HEATER	3.3	400	240/1	--	--	MARKEL 5100 SERIES
	UNIT HEATER	7.5	700	240/1	--	--	MARKEL 5100 SERIES

UNIT HEATERS

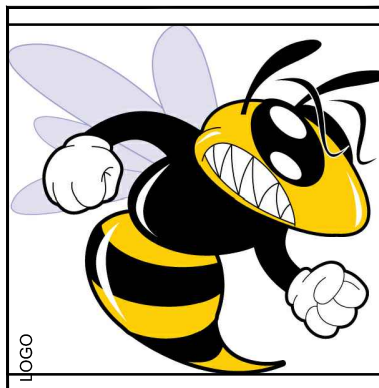
- TAMPER-PROOF BUILT-IN THERMOSTAT.
- U.L. LABELED.
- ENCLOSURE CONSTRUCTED OF HEAVY GAUGE STEEL, ZINC COATED BOTH SIDES AND FINISHED IN BAKED ENAMEL.
- PERMANENT LUBRICATED MOTOR, TOTALLY ENCLOSED, IMPEDENCE PROTECTION, SAME VOLTAGE AS HEATER.
- "ZERO VOLTAGE RESET" THERMAL OVERLOAD PROTECTION AND DISCONNECT SWITCH.
- WALL MOUNTING BRACKET.



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HUNTLAND WASTEWATER
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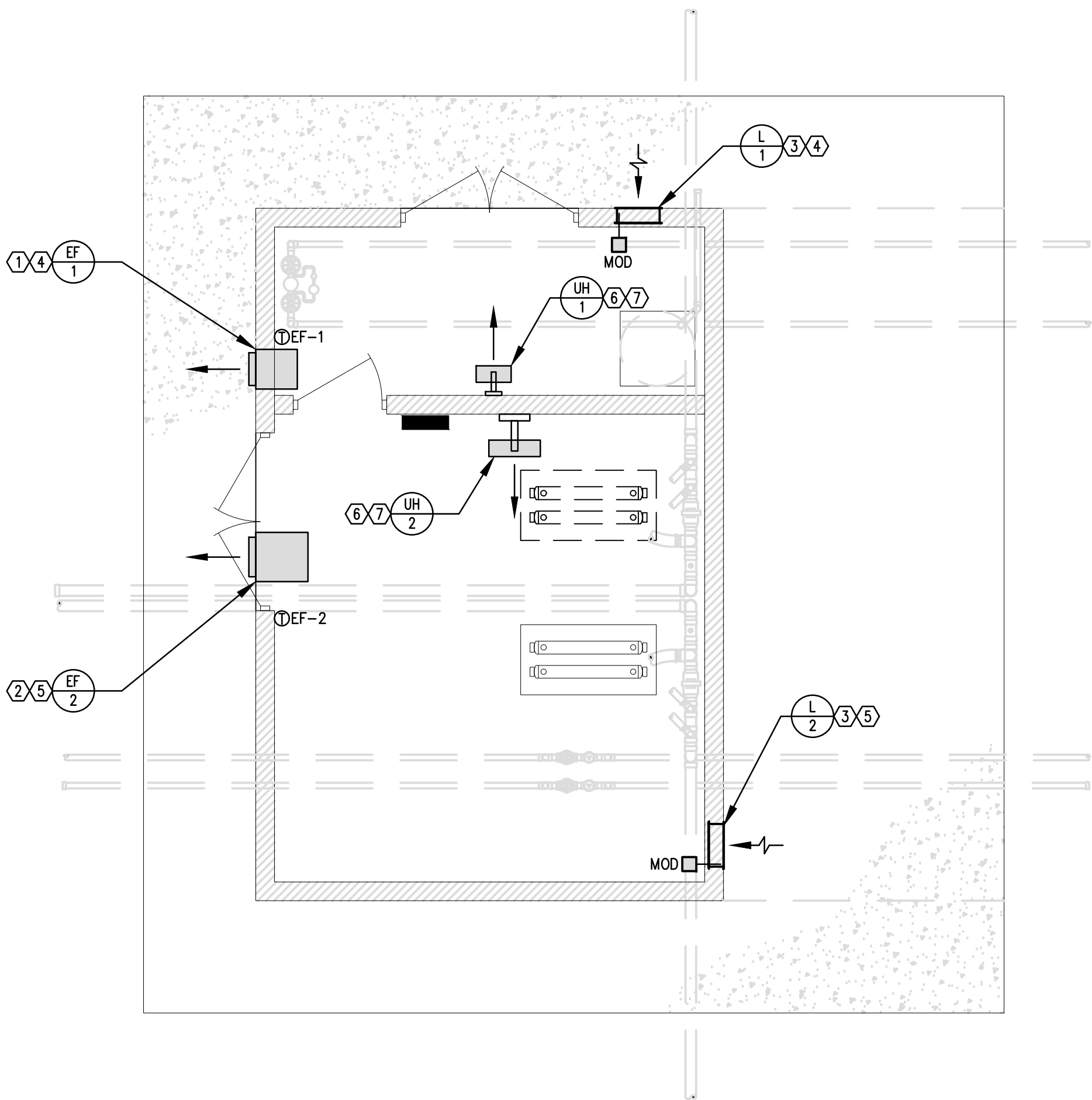
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	APPROVED BY KLS

DATE	ISSUE
3/5/21	IFB

TITLE
LEGEND,
SCHEDULES, AND
SPECIFICATIONS -
HVAC

DRAWING NO.

MO



FLOOR PLAN - HVAC

SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. COORDINATE WORK WITH ALL OTHER TRADES IN FIELD, INCLUDING STRUCTURAL.

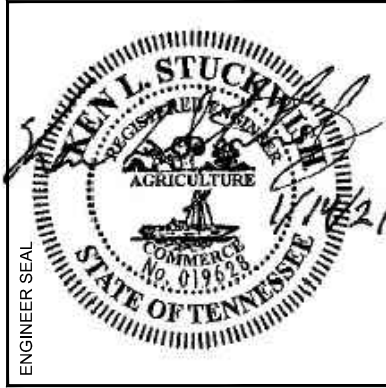
NOTES:

- ① MOUNT EXHAUST FAN AS HIGH AS POSSIBLE IN WALL.
- ② MOUNT EXHAUST FAN AS HIGH AS POSSIBLE IN WALL AND ABOVE DOOR.
- ③ MOUNT LOUVER IN WALL 18" A.F.F.
- ④ EXHAUST FAN EF-1 SHALL BE INTERLOCKED WITH THE MOTOR OPERATED DAMPER IN LOUVER L-1 SUCH THAT WHEN EF-1 IS ENERGIZED THE DAMPER IN L-1 SHALL OPEN. WHEN EF-1 IS DEENERGIZED THE REVERSE SHALL OCCUR. EF-1 SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT SET TO ENERGIZE THE FAN BASED ON A RISE IN TEMPERATURE ABOVE THE OWNER PROVIDED SETPOINT. WHEN THE SPACE TEMPERATURE DROPS BELOW THE OWNER PROVIDED SETPOINT THE FAN SHALL BE DEENERGIZED.
- ⑤ EXHAUST FAN EF-2 SHALL BE INTERLOCKED WITH THE MOTOR OPERATED DAMPER IN LOUVER L-2 SUCH THAT WHEN EF-2 IS ENERGIZED THE DAMPER IN L-2 SHALL OPEN. WHEN EF-2 IS DEENERGIZED THE REVERSE SHALL OCCUR. EF-2 SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT SET TO ENERGIZE THE FAN BASED ON A RISE IN TEMPERATURE ABOVE THE OWNER PROVIDED SETPOINT. WHEN THE SPACE TEMPERATURE DROPS BELOW THE OWNER PROVIDED SETPOINT THE FAN SHALL BE DEENERGIZED.
- ⑥ MOUNT TOP OF HEATER AT 10'-0" A.F.F.
- ⑦ UNIT HEATER SHALL BE CONTROLLED BY A UNIT MOUNTED THERMOSTAT SET TO ENERGIZE THE HEATER BASED ON A DROP IN SPACE TEMPERATURE BELOW THE OWNER PROVIDED SETPOINT. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT THE HEATER SHALL BE DEENERGIZED.

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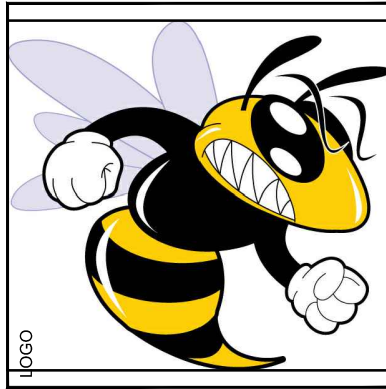
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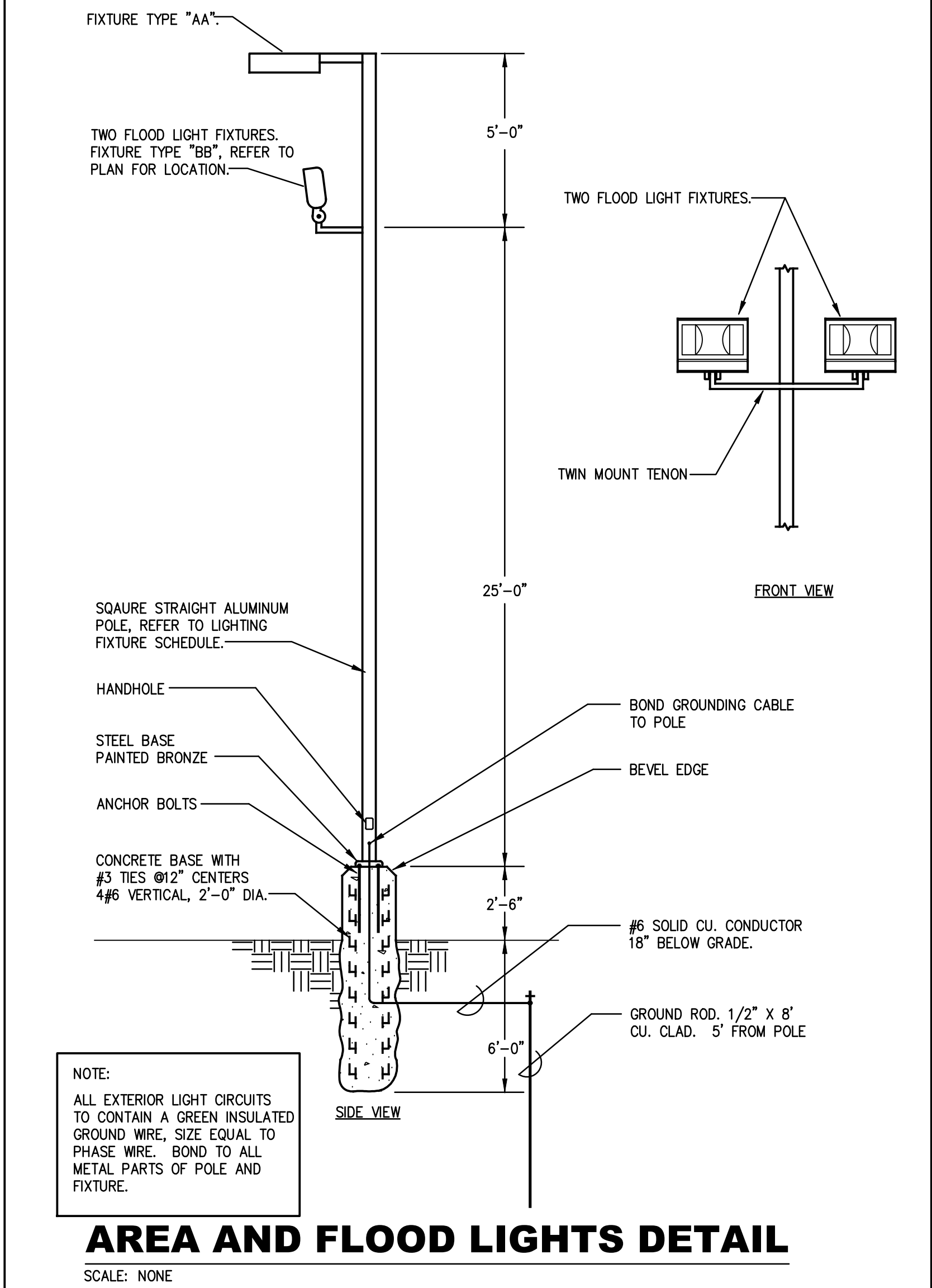
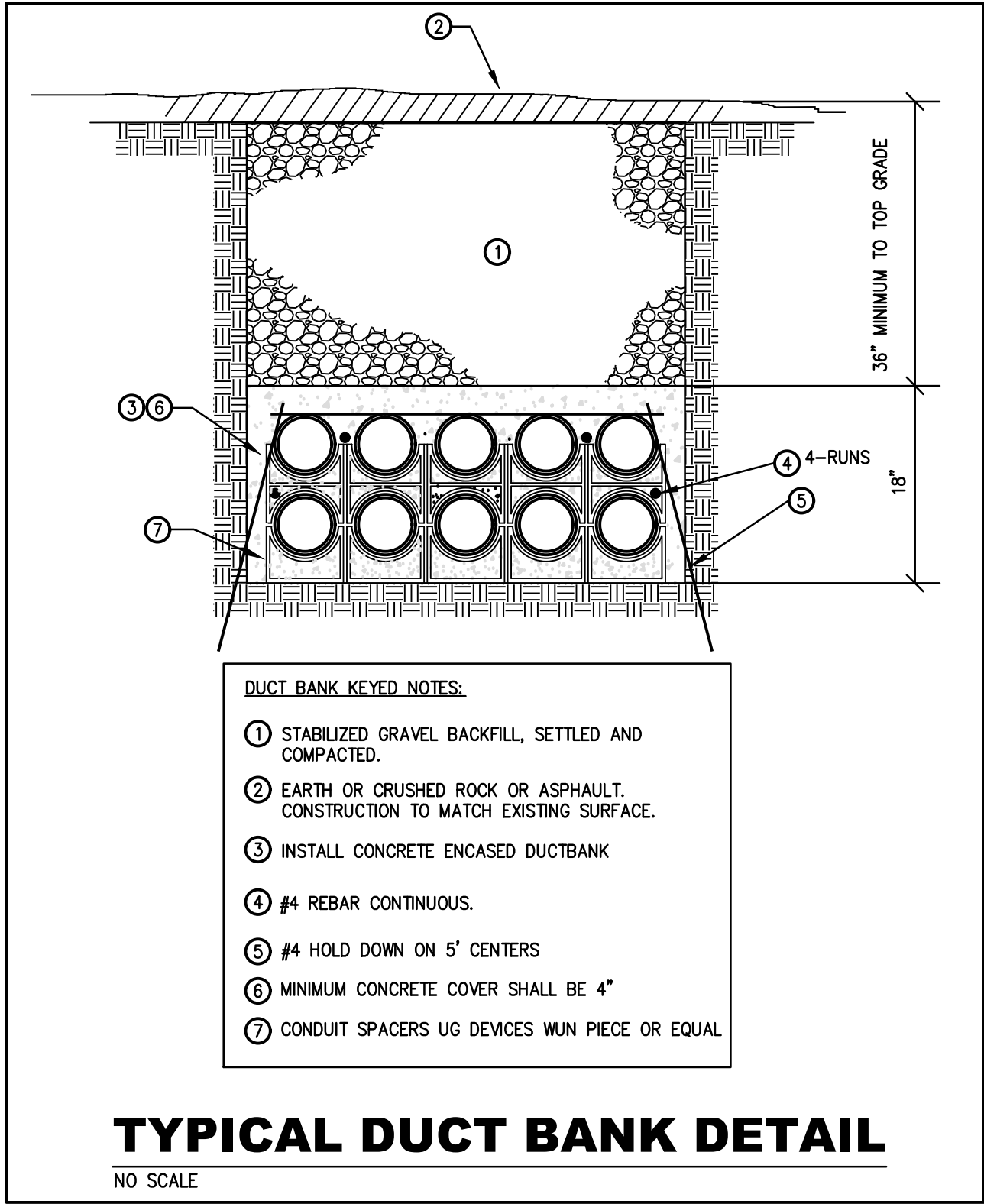
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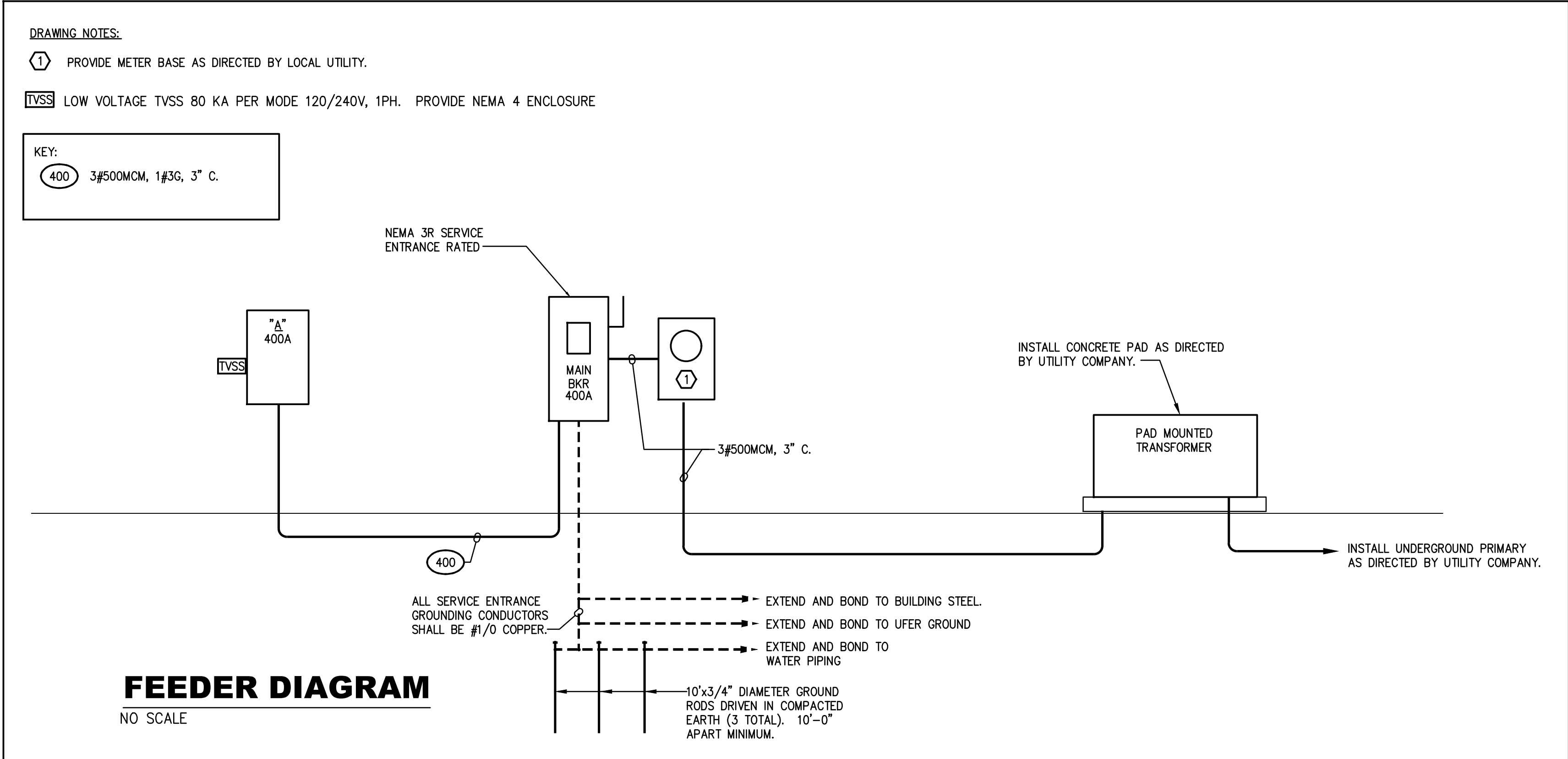
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ELECTRICAL LEGEND		
STANDARD ABBREVIATIONS AND NOTATIONS		
A AMPERE (AMPS)	HP HORSEPOWER	TSP TWISTED SHIELDED PAIR
AC INDICATES DEVICE SHALL BE MOUNTED ABOVE COUNTERTOP	IMC INTERMEDIATE METALLIC CONDUIT	UC UNDER COUNTER. INDICATES DEVICE SHALL BE LOCATED BELOW THE COUNTERTOP.
AFF ABOVE FINISHED FLOOR	KCMIL 1000 CIRCULAR MILS. SAME AS "MCM".	UON UNLESS OTHERWISE NOTED
AFG ABOVE FINISHED GRADE	KVA KILOVOLT-AMPS	V VOLTS
AFI ARC FAULT INTERRUPTER (AT CKT. BKR.)	KW KILOWATT	W WATTS
AIC AMPS INTERRUPTING CURRENT	MCA MINIMUM CIRCUIT AMPS	WG INDICATES DEVICE SHALL BE PROVIDED WITH WIRE GUARD
BKR BREAKER	MCC MOTOR CONTROL CENTER	WP WEATHERPROOF
C CONDUIT	MCM 1000 CIRCULAR MILS. SAME AS "KCMIL".	YFMR TRANSFORMER
CKT CIRCUIT	N NEUTRAL	4X SS DEVICES SHALL BE STAINLESS STEEL AND RATED NEMA 4X
CU COPPER CONDUCTOR	NIC NOT IN CONTRACT	EP DEVICES SHALL BE EXPLOSION PROOF RATING INDICATED ON DRAWING
DN DOWN	NL NIGHT LIGHT. LUMINAIRE SHALL BE UNSWITCHED EXCEPT FOR CIRCUIT BREAKER.	EX EXISTING DEVICE TO REMAIN
EM CONNECTED TO EMERGENCY POWER	PC INDICATES DEVICE IS CONTROLLED BY PHOTOCELL OR TIMECLOCK	EXM EXISTING DEVICE TO BE MOVED TO NEW LOCATION SHOWN
EMT ELECTRICAL METALLIC TUBING	PVC POLYVINYLCHLORIDE CONDUIT. CLASSIFIED AS RIGID NONMETALLIC CONDUIT PER NEC. SCHEDULE 40 UON.	EXR EXISTING DEVICE TO BE REMOVED
FLA FULL LOAD AMPS	GR INDICATES LUMINAIRE SHALL BE PROVIDED WITH QUARTZ RESTRIKE	
G GROUND (ALSO "GND")	SCCR SHORT-CIRCUIT CURRENT RATING	
GFI GROUND-FAULT CIRCUIT-INTERRUPTER (ALSO "GFO")	TR TAMPER RESISTANT	
GRS GALVANIZED RIGID STEEL CONDUIT		
SYMBOL DESCRIPTION		
"A"	PANELBOARD - FLUSH OR SURFACE MOUNTED AS INDICATED. MOUNT TOP OF PANEL AT 6'-0" OR AT NEAREST MASONRY JOINT. "A" INDICATES THE PANEL DESIGNATION. SEE PANELBOARD SCHEDULE FOR PANELBOARD REQUIREMENTS.	
	CONDUIT INSTALLED IN CEILING OR WALL CONSTRUCTION.	
	CONDUIT INSTALLED UNDERGROUND OR BELOW THE FLOOR CONSTRUCTION.	
A-1,3	HOMERUN - EXTEND CONDUIT TO THE PANELBOARD OR DEVICE INDICATED. NUMBER OF CROSSHATCHED LINES INDICATES THE QUANTITY OF CURRENT CARRYING CONDUCTORS (NOT INCLUDING THE GROUND CONDUCTOR) WHERE MORE THAN TWO. ALL CIRCUITS SHALL HAVE SEPARATE NEUTRALS SHALL BE CONNECTED TO DIFFERENT PHASES WITHIN THE PANELBOARD REGARDLESS OF THE NUMBERING ON THE DRAWINGS. ALL CONDUIT RUNS SHALL BE PROVIDED WITH A GREEN CODE SIZE EQUIPMENT GROUNDING CONDUCTOR THAT SHALL BOND TO THE GROUNDING BUS BAR IN THE PANELBOARD.	
AC S	WALL SWITCH - RATED FOR 20-AMP OPERATION AT LINE VOLTAGE. SINGLE POLE UNLESS NOTED 3-WAY OR 4-WAY. MOUNT 48" ABOVE FINISHED FLOOR EXCEPT IN MASONRY WHERE THE HEIGHT SHALL BE ADJUSTED TO HAVE EDGE OCCUR AT NEAREST JOINT.	
AC S 3	DUPLEX RECEPTACLE - 120-VOLT, 20-AMP. MOUNT 18" ABOVE FINISHED FLOOR OR 8" ABOVE COUNTERTOPS OR BACK SPLASHES UNLESS OTHERWISE NOTED. "3" REFERS TO THE CIRCUIT NUMBER.	
AC S 3 WP	GROUND FAULT CIRCUIT INTERRUPTING DUPLEX RECEPTACLE - 120-VOLT, 20-AMP WITH GFCI PROTECTION IN THE RECEPTACLE. MOUNTING HEIGHT AND NOTATIONS SAME AS FOR DUPLEX RECEPTACLE. "WP" INDICATED ALUMINUM INUSE COVERPLATE.	
S 3	QUAD RECEPTACLE - TWO 120-VOLT, 20-AMP RECEPTACLES MOUNTED IN A TWO GANG BOX UNDER A SINGLE COVERPLATE. MOUNTING HEIGHT AND NOTATIONS SAMES AS FOR DUPLEX RECEPTACLE.	
	FUSED DISCONNECT SWITCH - RATING TO MATCH THE REQUIREMENTS OF THE EQUIPMENT BEING SERVED. HEAVY DUTY NEMA 3R UNLESS NOTED OTHERWISE.	
	JUNCTION BOX - SIZE AND USE AS REQUIRED. WHEN RECESSED COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2".	
	ELECTRIC MOTOR - PROVIDE CONNECTION AS INDICATED. VERIFY EXACT CONNECTION REQUIREMENTS WITH SUBMITTAL INFORMATION PRIOR TO ROUGH-IN TO ENSURE PROPER SERVICE SIZE AND CONNECTION LOCATION. USE FLEXIBLE CONDUIT WITHIN 18" OF EQUIPMENT.	
	THERMOSTAT - MOUNT 54" ABOVE FINISHED FLOOR. EXTEND CONDUIT AND CONDUCTORS TO EQUIPMENT BEING CONTROLLED AND CONNECT.	
S 3 b	LED VAPORTITE LUMINAIRE - LITHONIA #VAP 4000LM FST MD MVOLT 50K 90CRI WLFEND2 STSL, WET LOCATION WITH STAINLESS STEEL LATCHES. "b" REFERS TO SWITCH CONTROL IDENTIFIER WHERE REQUIRED, "3" REFERS TO CIRCUIT NUMBER.	
S 3	EXTERIOR WALL PACK LUMINAIRE - MOUNT AT 7'-0" ABOVE FINISHED GRADE. FIXTURE SHALL BE RAB LED SLIM37N PHOTOCELL.	
	EGRESS LIGHTING LUMINAIRE - MOUNT 1'-0" BELOW FINISHED CEILING NOT TO EXCEED 9'-0" ABOVE FINISHED FLOOR. FIXTURE SHALL BE LITHONIA IND1236H12H12 LED OR EQUAL.	
	EXIT SIGN WITH DUAL HEAD EGRESS LIGHTING - SINGLE FACE, WALL MOUNTED. FIXTURE SHALL BE MULE N4X1R12422TSD OR EQUAL.	

LIGHTING FIXTURE SCHEDULE										
DESIGNATION	LAMPS			MOUNTING			LAMP TYPES	GENERAL NOTES		
	LAMP TYPE	QUANTITY	WATTAGE EACH	CEILING	WALL	GROUND	FLR = FLUORESCENT INC = INCANDESCENT HPS = HIGH PRESSURE SODIUM MH = METAL HALIDE QTZ = QUARTZ	1) FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL. 2) CONTRACTOR SHALL VERIFY CEILING TYPE AND MOUNTING REQUIREMENTS PRIOR TO INSTALLATION.		
				PENDANT STEM LENGTH RECESSED	HEIGHT ABOVE FINISHED FLOOR OR GRADE	POLE HEIGHT				
GENERAL DESCRIPTION								MANUFACTURER		
								COMPANY	CATALOG NUMBER	
AA	LED	1	125				125--WATT LED FLOOD LIGHT WITH ALUMINUM HOUSING, GLASS LENS, BRONZE FINISH AND LISTED FOR WET LOCATIONS. MOUNT TO POLE AS SHOWN IN DETAIL SHEET.	RAB	FXLED125 TN	
BB	LED	1	208				208--WATT LED AREA LIGHT WITH ALUMINUM HOUSING 2" ARM MOUNT AND BRONZE FINISH.PROVIDE 30' ROUND TAPERED ALUMINUM POLE WITH GFI RECEPTACLE AND COLOR TO MATCH FIXTURE. PROVIDE RECEPTACLE AS INDICATED ON PLANS. PROVIDE WITH CONTINUOUS WET LOCATION USE ALUMINUM COVER. PROVIDE INTEGRAL PHOTOCELL AS WHERE INDICATED BY "PC" ON THE DRAWINGS. PROVIDE WEATHERPROOF SWITCH WHERE INDICATED BY S _{WP} ON THE DRAWINGS.	LUMEC ULS	FIXTURE: RVM 215W128ED4KR LE4 120V CLO POLE: RTA845 303 DRGFI IUC SB 218	

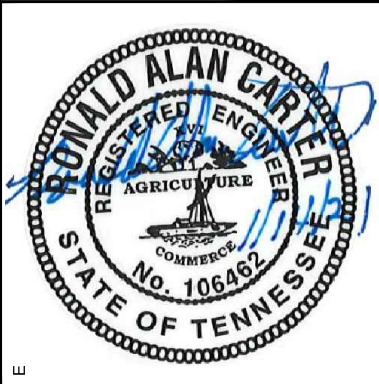


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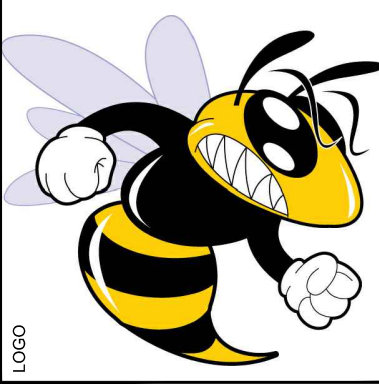
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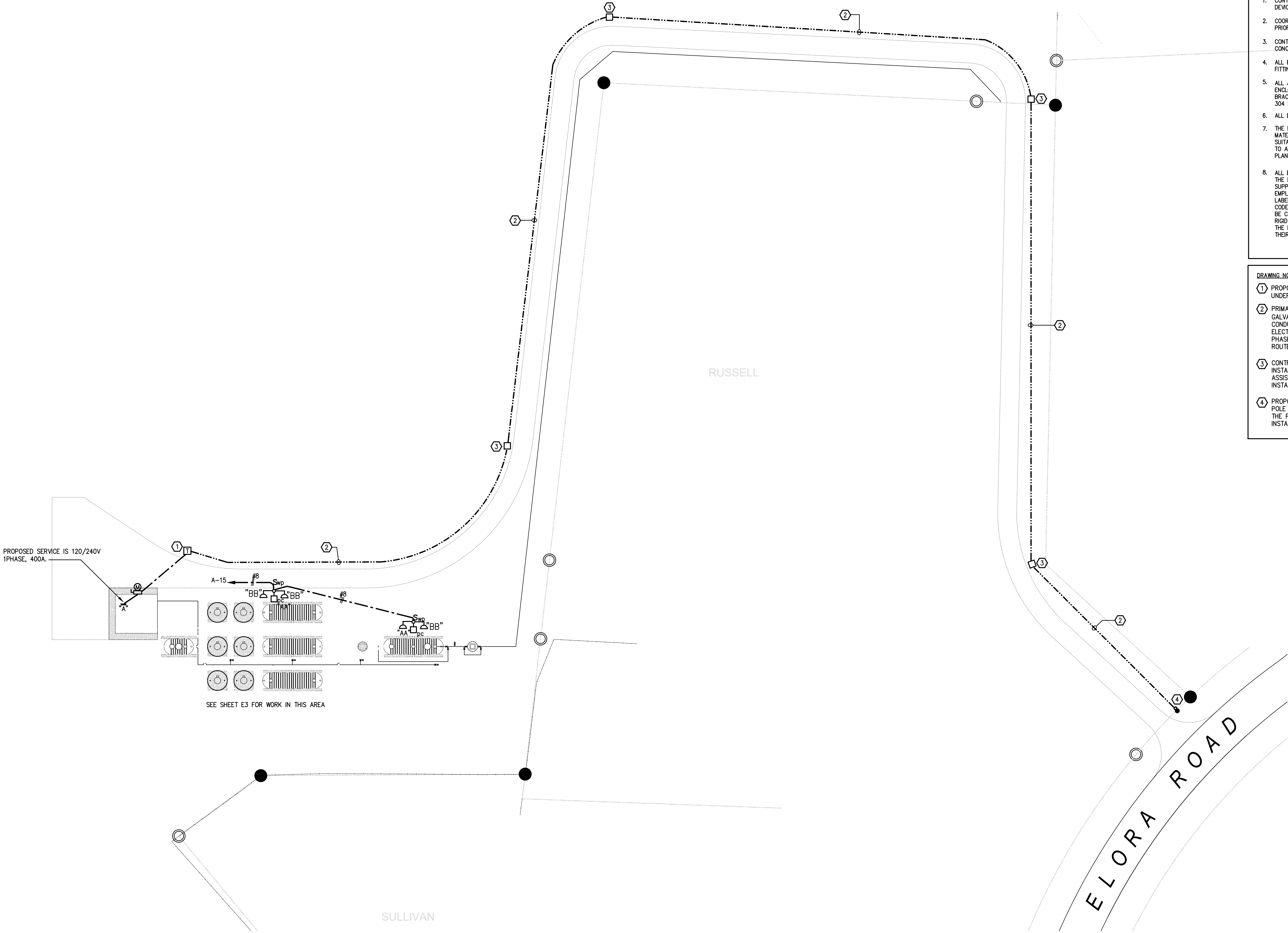
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TITLE

LEGEND AND SCHEDULES

DRAWING NO.
GE1

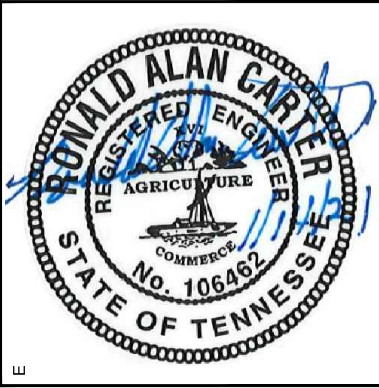


- GENERAL NOTES:
1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
 2. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGHIN.
 3. CONTRACTOR SHALL FIELD ROUTE ALL CONDUIT. ROUTE CONCEALED, WHEN EVER POSSIBLE.
 4. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL.
 5. ALL JUNCTION BOXES, NEMA 4 OR 4X EQUIPMENT ENCLOSURES, WP DEVICE ENCLOSURES, AND ALL BRACKETS, CLAMPS, AND FASTENERS SHALL BE 304 STAINLESS STEEL UNLESS NOTED OTHERWISE.
 6. ALL DISCONNECTS SHALL BE NEMA 4X SS.
 7. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
 8. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.

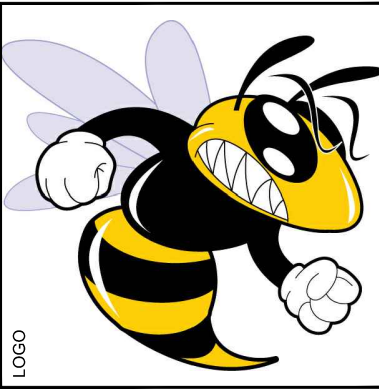
- DRAWING NOTES:
- 1 PROPOSED LOCATION OF NEW PAD MOUNTED TRANSFORMER. INSTALL UNDERGROUND CONDUITS AND CONCRETE PAD AS DIRECTED BY UTILITY CO.
 - 2 PRIMARY DUCT BANK TO BE TWO 2.5" SCHEDULE 40 PVC (RIGID GALVANIZED STEEL UNDER ALL ROADWAYS) 48" DEPTH TO TOP OF CONDUITS, BY CONTRACTOR. CABLE TO PROVIDED BY DUCK RIVER ELECTRIC. CONTRACTOR SHALL ASSIST THE POWER COMPANY IN ALL PHASES OF THE PRIMARY SERVICE INSTALLATION. CONTRACTOR SHALL ROUTE CONDUITS EXACTLY AS DIRECTED BY DUCK RIVER ELECTRIC.
 - 3 CONTRACTOR SHALL INSTALL PRIMARY PULLBOX AS SPECIFIED AND INSTALLED AS DIRECTED BY UTILITY COMPANY. CONTRACTOR SHALL ASSIST THE POWER COMPANY IN ALL PHASES OF THE PRIMARY SERVICE INSTALLATION.
 - 4 PROPOSED LOCATION OF PRIMARY RISER POLE. INSTALL CONDUITS UP POLE AS DIRECTED BY UTILITY COMPANY. CONTRACTOR SHALL ASSIST THE POWER COMPANY IN ALL PHASES OF THE PRIMARY SERVICE INSTALLATION.

SITE UTILITIES NOTE
PRIOR TO STARTING SERVICE ENTRANCE WORK, THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY & SHALL DETERMINE ALL REQUIREMENTS. PROVIDE NECESSARY LABOR AND MATERIALS UNDER THE CONTRACT TO INSTALL EACH SERVICE ENTRANCE COMPLETE. CONTRACTOR SHALL PAY ALL FEES & CONTRIBUTIONS TO CONSTRUCTION REQUIRED BY THE LOCAL POWER COMPANY.

WWR ENGINEERS INC. 5417 Ball Camp Pike
Knoxville, Tn 37921
Phone: (865) 588-2431
Fax: (865) 588-2434
West, Welch, Reed Engineers, Inc.
WWR PROJECT# 120045
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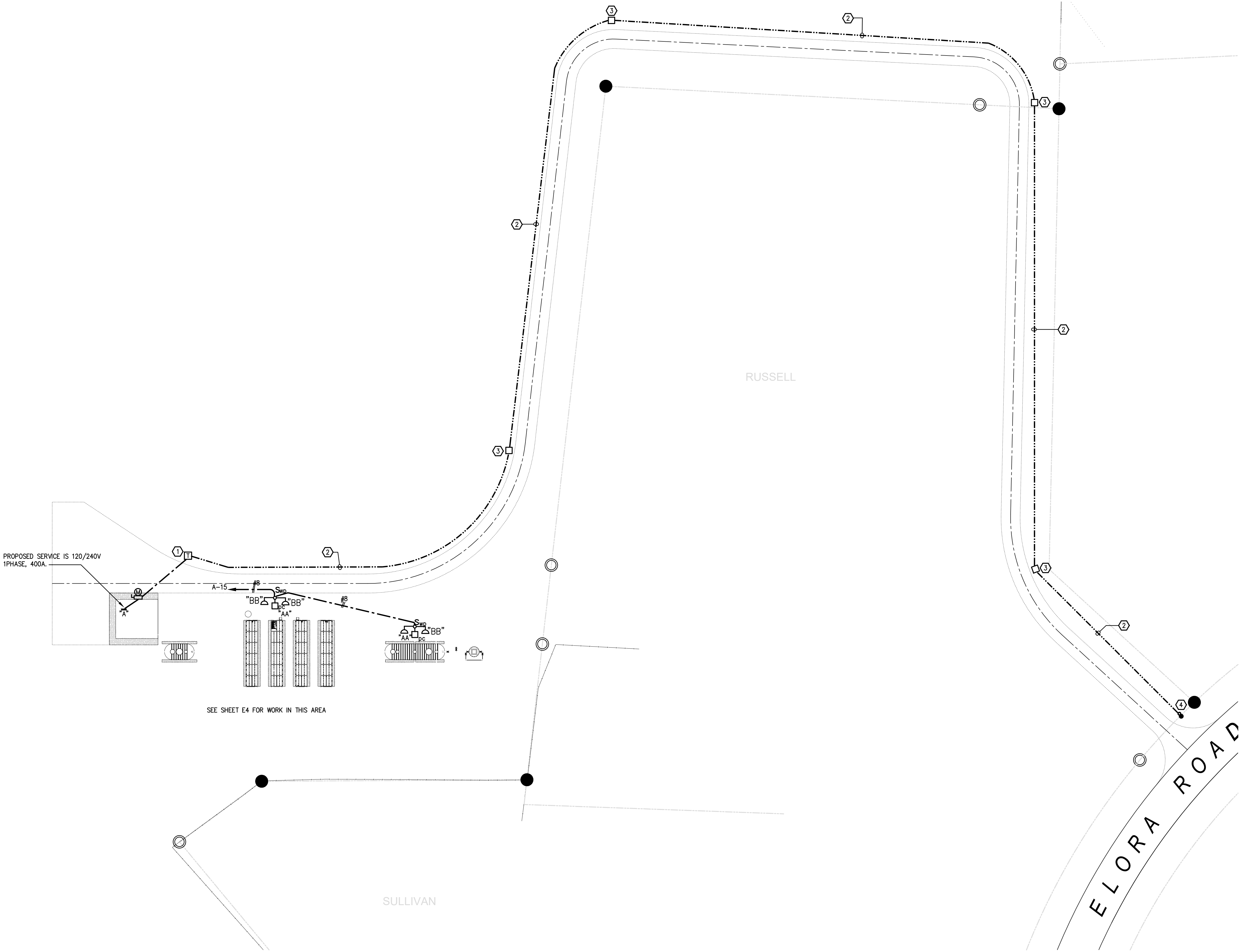
TOWN OF HUNTLAND
HUNTLAND WASTEWATER
TREATMENT PLANT
3700-004



NORTH
DRAWN BY
JCM
APPROVED BY
RAC

DATE	ISSUE
3/5/21	IFB

TITLE
SITE PLAN -
ELECTRICAL
DRAWING NO.
SE1



ORENCO SITE PLAN - ELECTRICAL

SCALE: 1"=30'-0"

GENERAL NOTES:

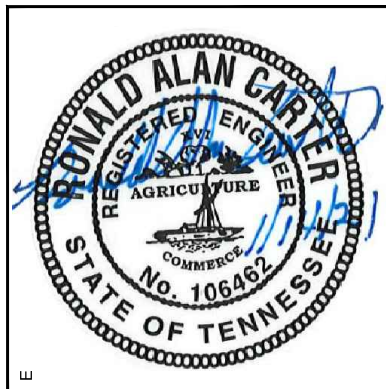
1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
2. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGHIN.
3. CONTRACTOR SHALL FIELD ROUTE ALL CONDUIT. ROUTE CONCEALED, WHEN EVER POSSIBLE.
4. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL.
5. ALL JUNCTION BOXES, NEMA 4 OR 4X EQUIPMENT ENCLOSURES, WP DEVICE ENCLOSURES, AND ALL BRACKETS, CLAMPS, AND FASTENERS SHALL BE 304 STAINLESS STEEL UNLESS NOTED OTHERWISE.
6. ALL DISCONNECTS SHALL BE NEMA 4X SS.
7. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
8. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.

DRAWING NOTES:

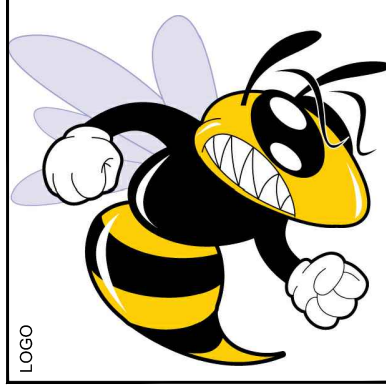
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TOWN OF HUNTLAND
HUNTLAND WASTEWATER
TREATMENT PLANT
3700-004

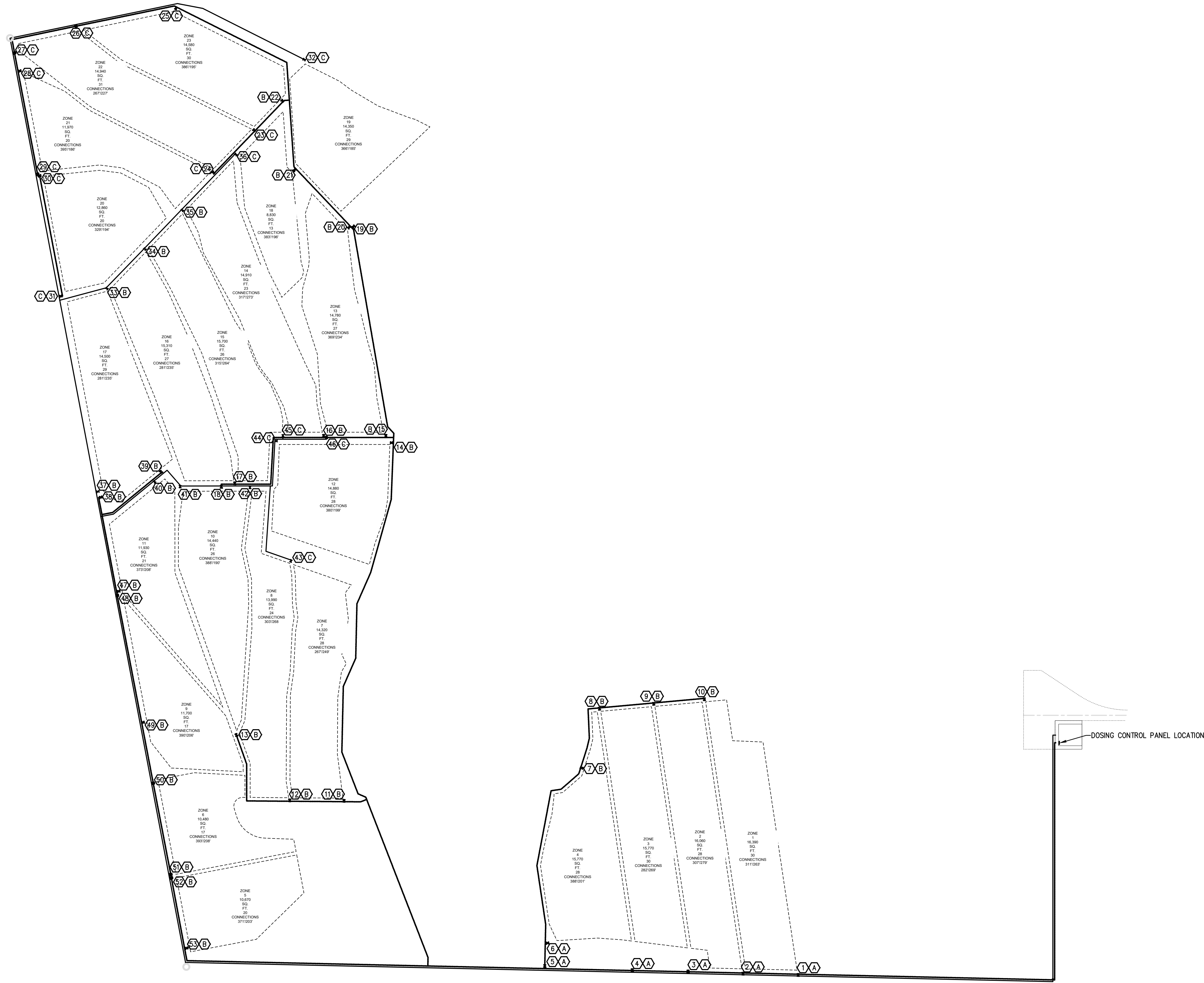


NORTH
DRAWN BY
JCM
APPROVED BY
RAC

DATE	ISSUE
3/5/21	IFB

TITLE
ORENCO SITE PLAN -
ELECTRICAL

DRAWING NO.
SE2



ELECTRICAL DISTANCE LEGEND				
1 566'	11 1,221'	21 1,978'	31 2,742'	41 1,911'
2 629'	12 1,285'	22 2,068'	32 2,703'	42 1,991'
3 692'	13 1,412'	23 2,118'	33 2,851'	43 2,119'
4 756'	14 1,624'	24 2,188'	34 2,916'	44 2,067'
5 856'	15 1,635'	25 2,244'	35 1,980'	45 2,083'
6 888'	16 1,709'	26 2,362'	36 2,301'	46 2,135'
7 1,110'	17 1,861'	27 2,453'	37 1,824'	47 1,694'
8 1,192'	18 1,880'	28 2,477'	38 1,802'	48 1,687'
9 1,255'	19 1,880'	29 2,597'	39 1,866'	49 1,539'
10 1,314'	20 1,883'	30 2,602'	40 1,868'	50 1,467'
NOTE: THE LENGTHS LISTED ABOVE ARE APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FINAL CABLE LENGTHS REQUIRED TO CONNECT THE DRIP FIELD SOLENOIDS.				

ELECTRICAL NOTES				
A	2#14,1#14GND, 24VAC DIRECT BURIAL CABLE TO CONNECT ZONE SOLENOID VALVE TO DOSING CONTROL PANEL.			
B	2#12,1#12GND, 24VAC DIRECT BURIAL CABLE TO CONNECT ZONE SOLENOID VALVE TO DOSING CONTROL PANEL.			
C	2#10,1#10GND, 24VAC DIRECT BURIAL CABLE TO CONNECT ZONE SOLENOID VALVE TO DOSING CONTROL PANEL.			

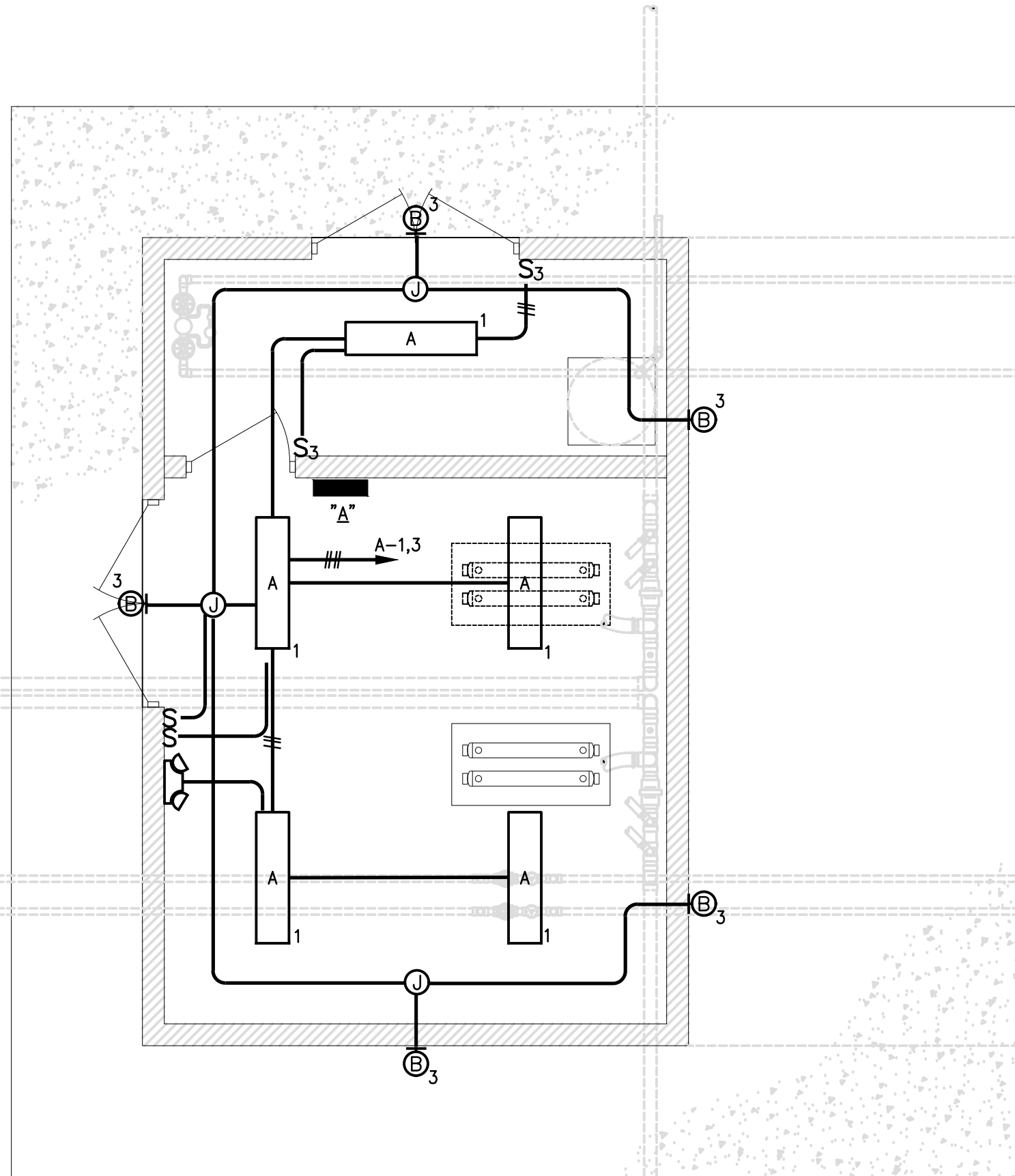
DISPERSAL FIELD SITE PLAN - ELECTRICAL

SCALE: 1"=60'-0"

WWR
ENGINEERS INC

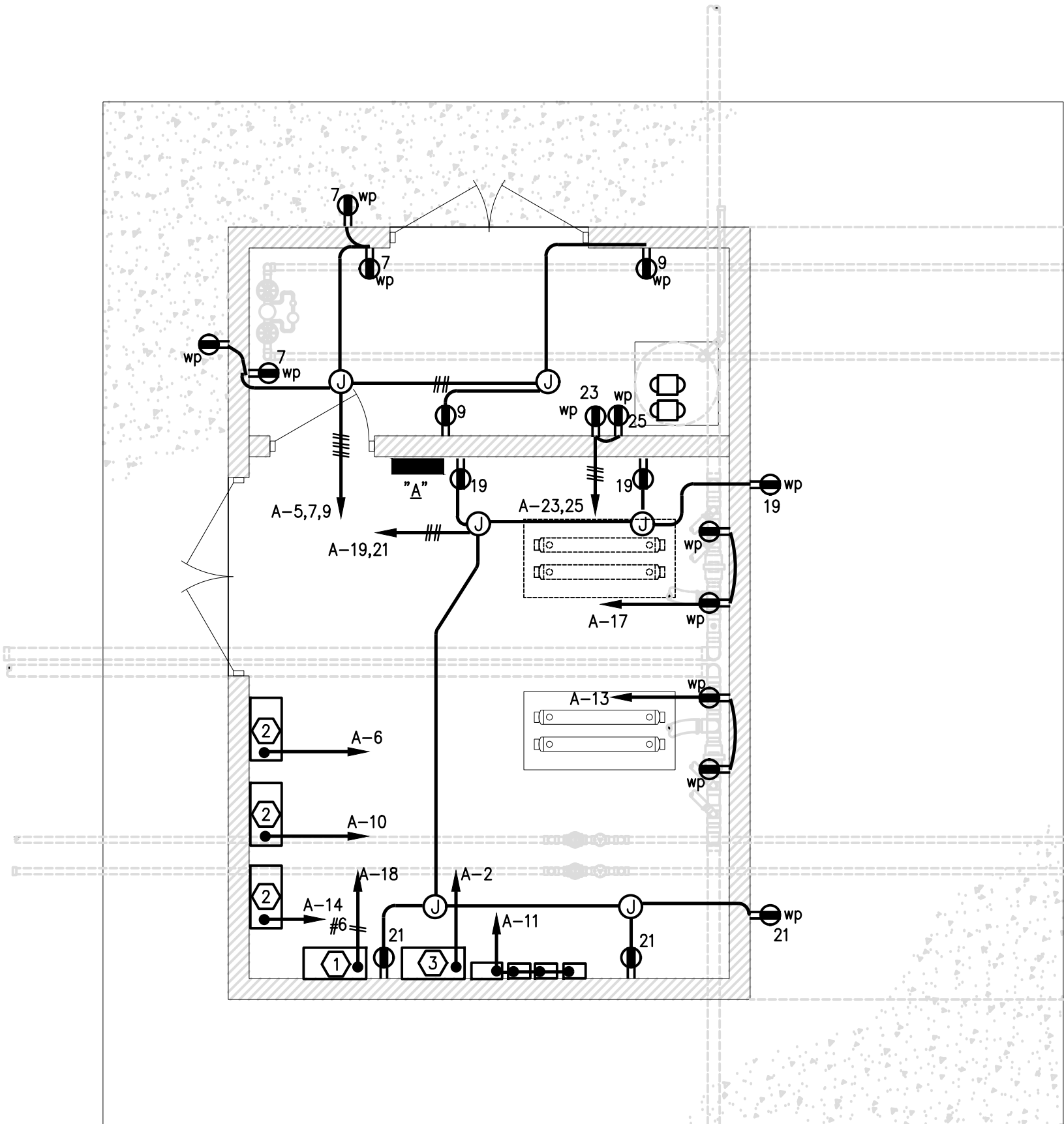
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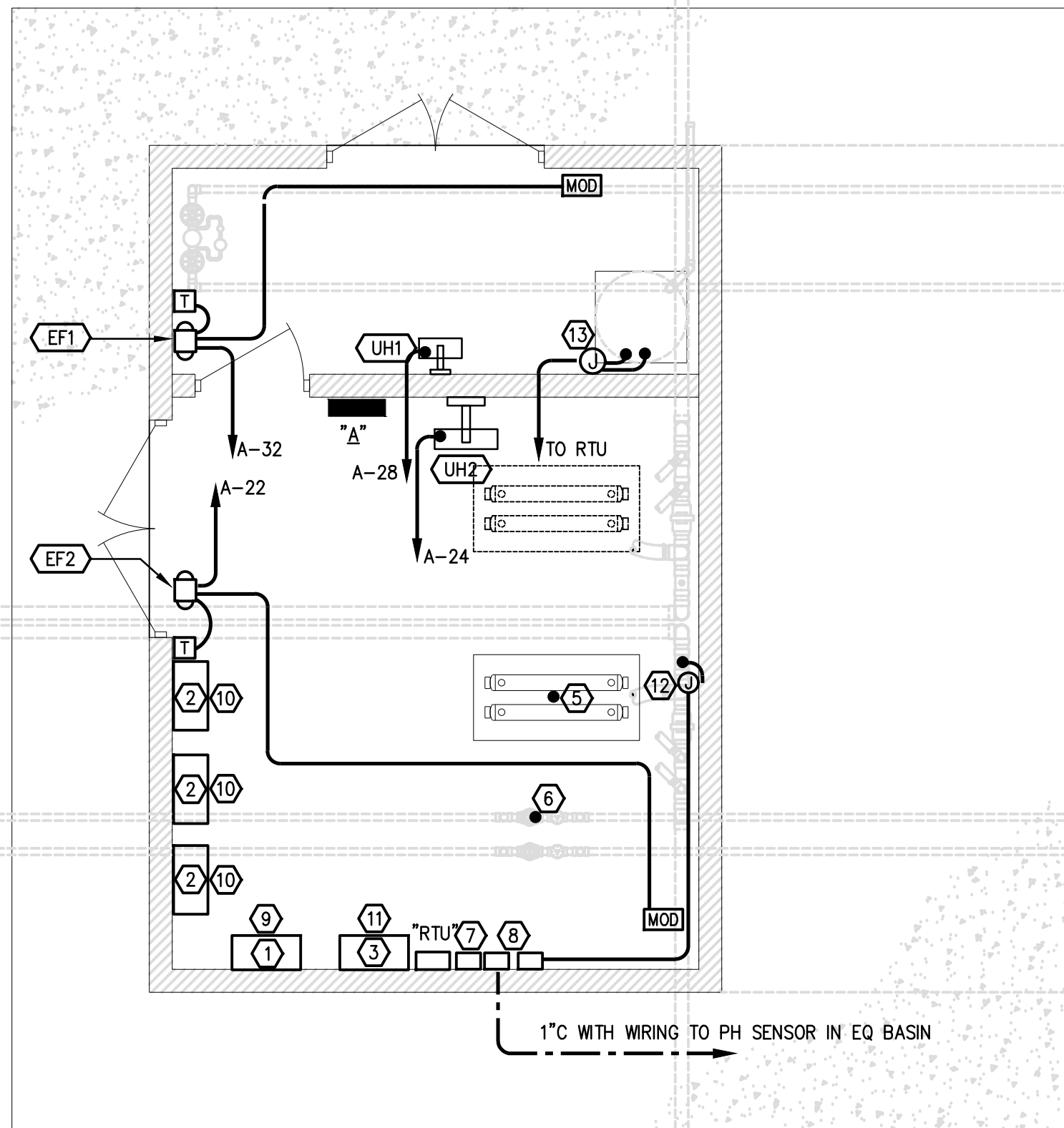
FLOOR PLAN - LIGHTING

SCALE: 1/4"=1'-0"



FLOOR PLAN - POWER

SCALE: 1/4"=1'-0"



FLOOR PLAN - COMMUNICATIONS

SCALE: 1/4"=1'-0"

A	RATING: 400 AMPS MAIN: LUGS PHASE: 1 WIRE: 3 SCCR: 10,000 AIC				VOLTAGE: 120/240 MOUNTING: SURFACE ENCLOSURE: NEMA 1 SIZE (WxD): 20"x6"				LOAD SUMMARY #A: 30.0 KW #B: 30.0 KW TOTAL: 60.0 KW				
	FEEDER: SEE RISER DIAGRAM												
	PANEL DESIGNATION												
	LOAD DESCRIPTION												
LIGHTS	BKR	KW		A	B		KW	BKR	LOAD DESCRIPTION				
EXTERIOR LIGHTS	20/1	0.3	1				2	3.0	60	FLOW EQUALIZATION TANK CONTROL PANEL			
SPARE	20/1	5					4	3.0	2				
GENERAL RECEPTACLES	20/1	1.0	7				6	4.5	60	BIOCLERE CONTROL PANEL 1			
GENERAL RECEPTACLES	20/1	1.0	9				8	4.5	2				
SCADA RTU	20/1	0.3	11				10	4.5	60	BIOCLERE CONTROL PANEL 2			
UV UNITS	20/1	0.3	13				12	4.5	2				
EXTERIOR POLE LIGHT	20/1	0.3	15				14	4.5	60	BIOCLERE CONTROL PANEL 3			
UV UNITS	20/1	0.3	17				16	4.5	2				
GENERAL RECEPTACLES	20/1	1.0	19				18	4.2	60	DOSING TANK CONTROL PANEL			
GENERAL RECEPTACLES	20/1	1.0	21				20	4.2	2				
MIXER	20/1	1.0	23				22	0.5	20/1	EF-2			
METERING PUMP	20/1	1.0	25				24	3.7	40	UH-2			
SPARE	20/1		27				26	3.7	2				
SPARE	20/1		29				28	1.2	20	UH-1			
SPARE	20/1		31				30	1.2	2				
SPARE	20/1		33				32	0.5	20/1	EF-1			
SPARE	20/1		35				34		20/1	PROVISION			
SPARE	20/1		37				36		20/1	PROVISION			
SPARE	20/1		39				38		20/1	PROVISION			
SPARE	30		41				40	30		TVSS			
	2		43				42		2				

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DRAWING NOTES:

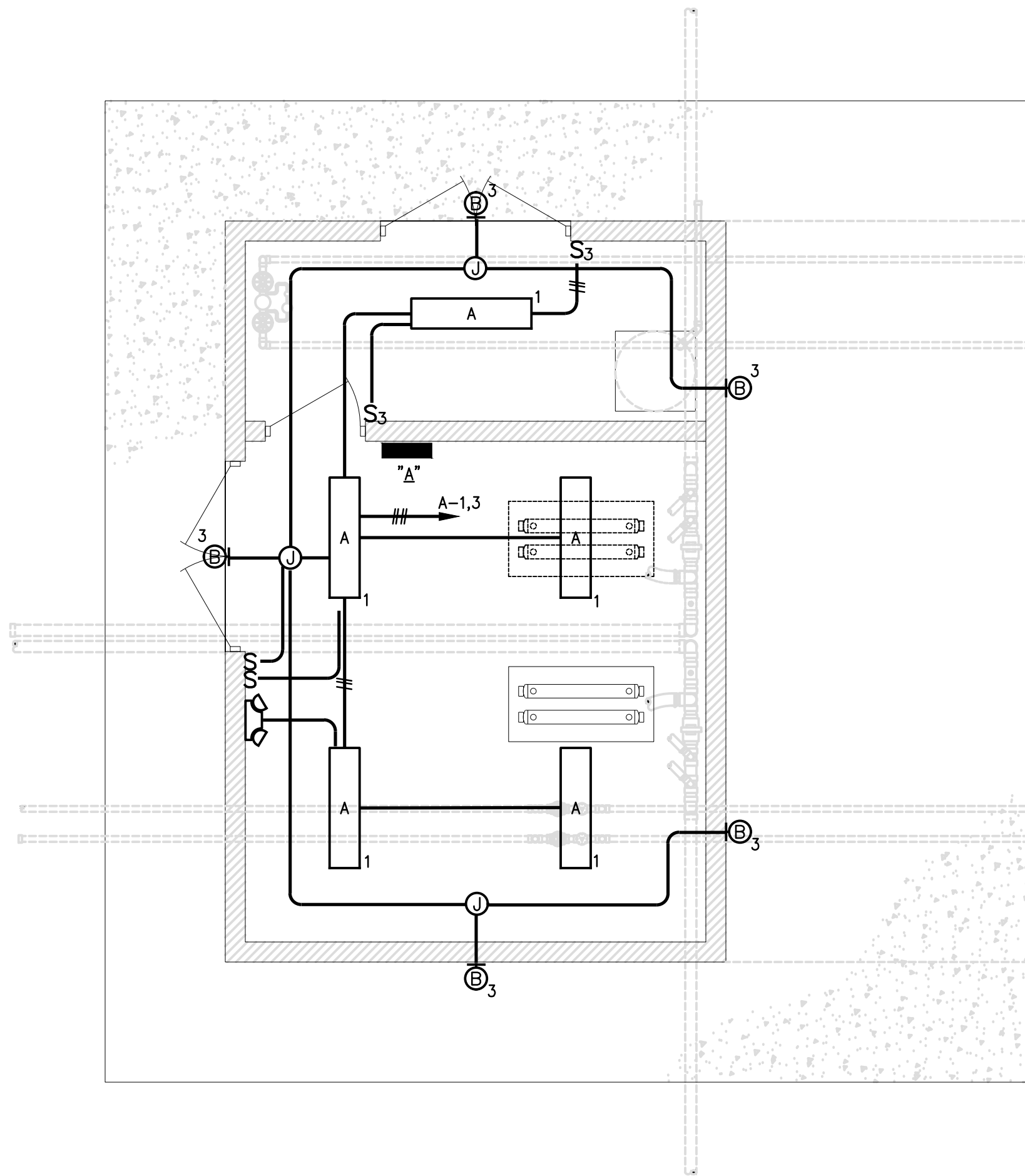
- 1 DOSING TANK CONTROL PANEL. 120V, 20A. EXTEND 3/4"C, 2#12, #12GND.
- 2 BIOCLERE CONTROL PANEL. 120/240V, 60A. EXTEND 1"C, 3#6, #10GND.
- 3 FLOW EQUALIZATION CONTROL PANEL. 120/240V, 60A. EXTEND 1"C,3#6, #10GND.
- 4 MISSION SCADA RTU. 120V, 20A, EXTEND 3/4"C, 2#12, #12GND.
- 5 DOSING FLOWMETER. 3/4"C WITH CABLING TO MISSION RTU FOR MONITORING.
- 6 FLUSHING FLOWMETER AND PRESSURE SENSOR. 3/4"C WITH CABLING TO MISSION RTU FOR MONITORING.
- 7 INFLUENT FLOWMETER ANALYZER. EXTEND 3/4"C, 4C#16TSP TO RTU FOR MONITORING.
- 8 2 EACH PH ANALYZERS. EXTEND 1"C, TWO-4C#16TSP TO RTU FOR MONITORING.
- 9 DOSING TANK CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 10 BIOCLERE CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 11 EQUALIZATION CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 12 PH SENSOR. EXTEND 3/4"C, WITH CABLING PH ANALYZER.
- 13 CHEMICAL METERING PUMP AND TANK MIXER ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.

HVAC WIRING NOTES: (THIS SHEET)

- EF1 EF-1, 1/6HP, 120V. PROVIDE MEANS OF DISCONNECT AT FAN. 3/4"C, 2#12, #12GND. INTERLOCK WITH DAMPER AS REQUIRED.
- EF2 EF-2, 1/6HP, 120V. PROVIDE MEANS OF DISCONNECT AT FAN. 3/4"C, 2#12, #12GND. INTERLOCK WITH DAMPER AS REQUIRED.
- UH1 EH-1, 3.3KW, 240V. 3/4"C, 2#10, #10GND.
- UH2 UH-2, 7.5KW, 240V., 1PH. 3/4"C, 2#6, #10GND.
- MOD MOTOR OPERATED DAMPER, INTERLOCK WITH RESPECTIVE EXHAUST FAN SEE MECHANICAL.

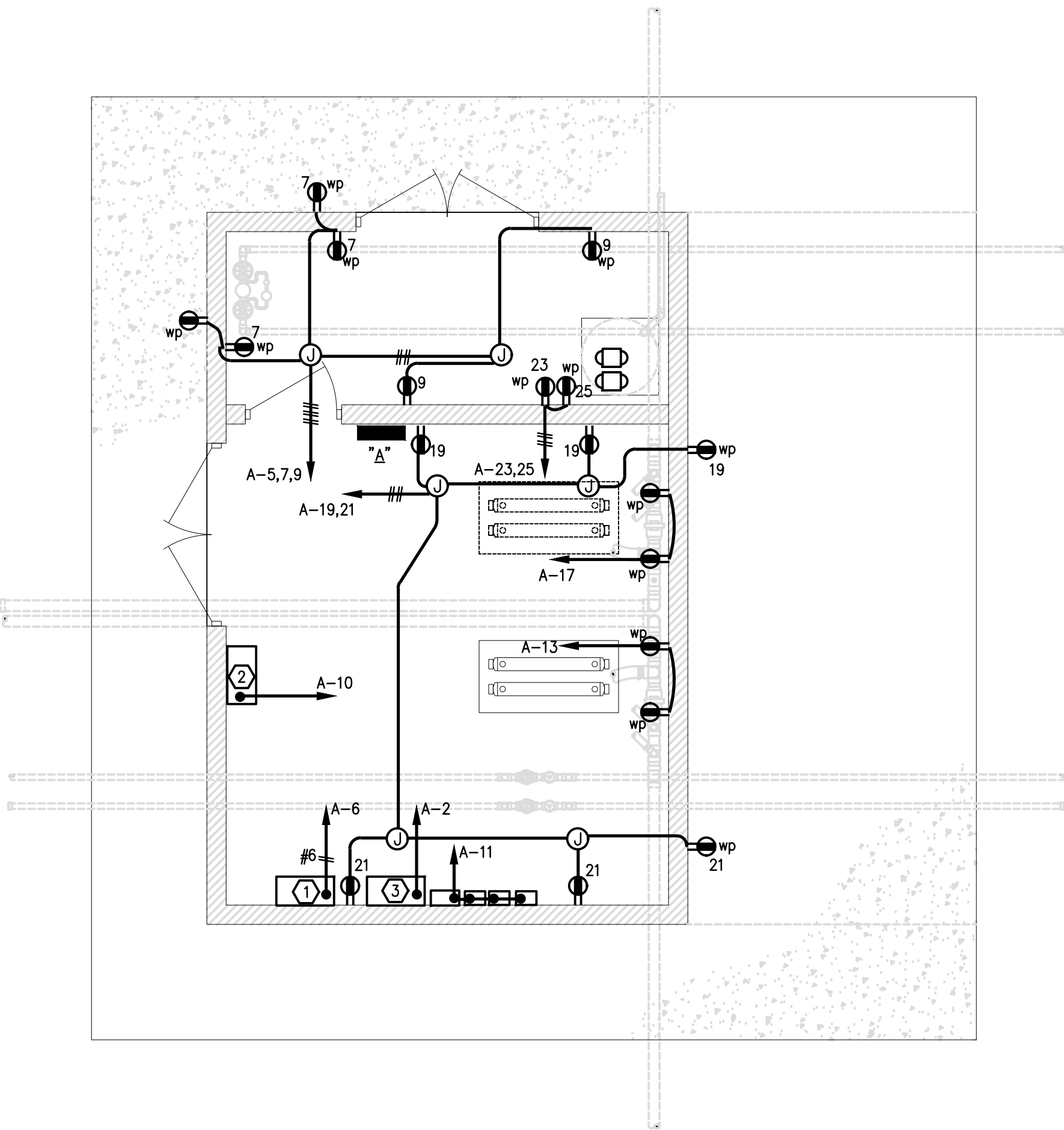
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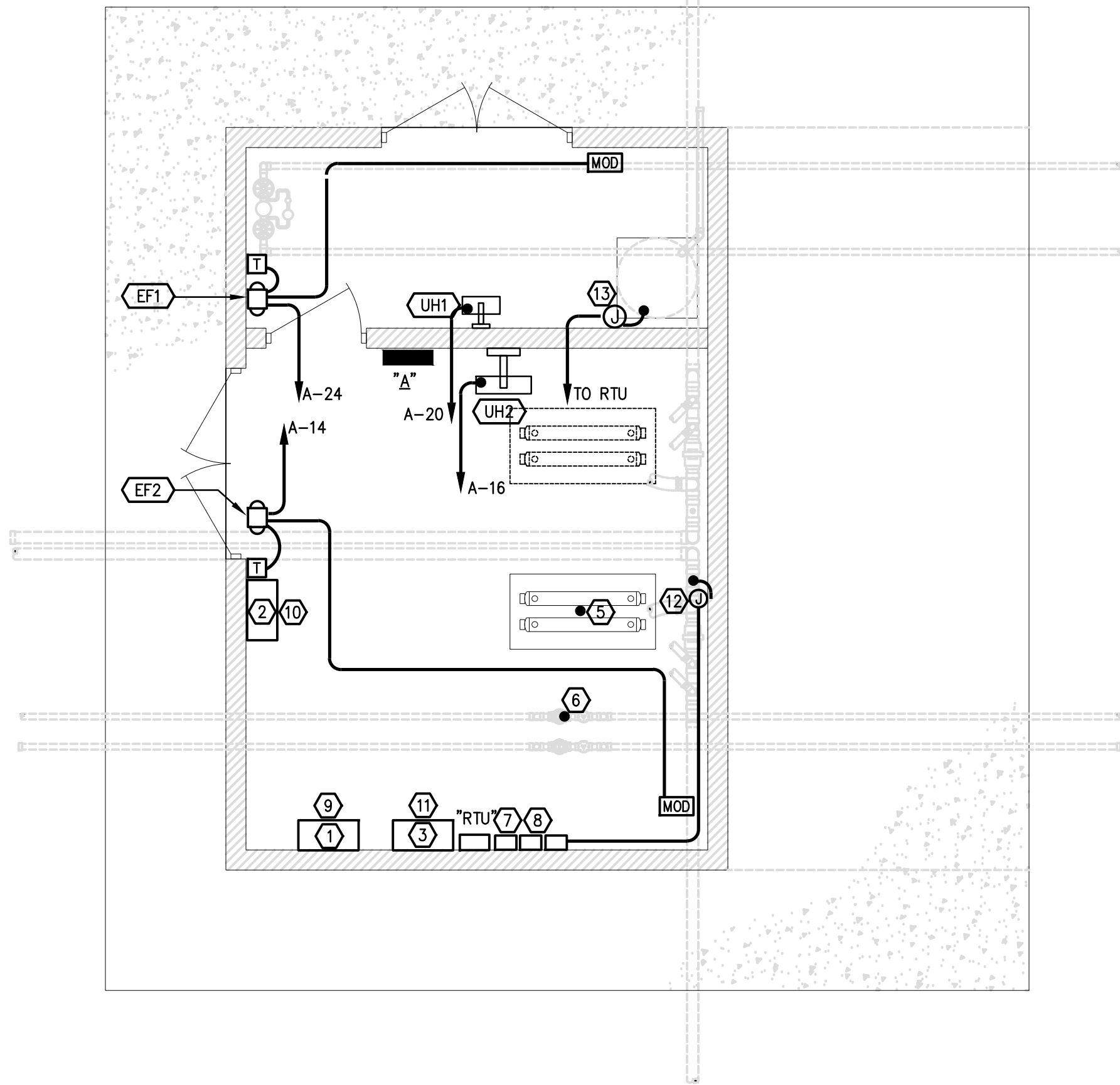
FLOOR PLAN - LIGHTING

SCALE: 1/4"=1'-0"



FLOOR PLAN - POWER

SCALE: 1/4"=1'-0"



FLOOR PLAN - COMMUNICATIONS

SCALE: 1/4"=1'-0"

A	RATING: 400 AMPS MAIN: LUGS				VOLTAGE: 120/240 MOUNTING: SURFACE				LOAD SUMMARY				
	PHASE: 1 WIRE: 3				ENCLOSURE: NEMA 1				#A: 22.7 KW				
	SCCR: 10,000 AIC				SIZE (WxD): 20"x6"				#B: 22.4 KW				
	FEEDER: SEE RISER DIAGRAM								TOTAL: 45.1KW				
PANEL DESIGNATION													
LOAD DESCRIPTION				BKR	KW		A	B		KW	BKR	LOAD DESCRIPTION	
LIGHTS				20/1	0.3	1				2	3.0	60	FLOW EQUALIZATION TANK CONTROL PANEL
EXTERIOR LIGHTS				20/1	0.3	3				4	3.0	2	
SPARE				20/1		5				6	4.2	60	DOSING TANK CONTROL PANEL
GENERAL RECEPTACLES				20/1	1.0	7				8	4.2	2	
GENERAL RECEPTACLES				20/1	1.0	9				10	13.0	200	TREATMENT CONTROL PANEL
SCADA RTU				20/1	0.3	11				12	13.0	2	
UV UNITS				20/1	0.3	13				14	0.5	20/1	EF-2
EXTERIOR POLE LIGHT				20/1	0.3	15				16	3.7	40	UH-2
UV UNITS				20/1	0.3	17				18	3.7	2	
GENERAL RECEPTACLES				20/1	1.0	19				20	1.2	20	UH-1
GENERAL RECEPTACLES				20/1	1.0	21				22	1.2	2	
MIXER				20/1	1.0	23				24	0.5	20/1	EF-1
METERING PUMP				20/1	1.0	25				26		20/1	PROVISION
SPARE				20/1		27				28		20/1	PROVISION
SPARE				20/1		29				30		20/1	PROVISION
SPARE				20/1		31				32		20/1	PROVISION
SPARE				20/1		33				34		20/1	PROVISION
SPARE				20/1		35				36		20/1	PROVISION
SPARE				20/1		37				38		20/1	PROVISION
SPARE				30		39				40		50	TVSS
				2		41				42		2	

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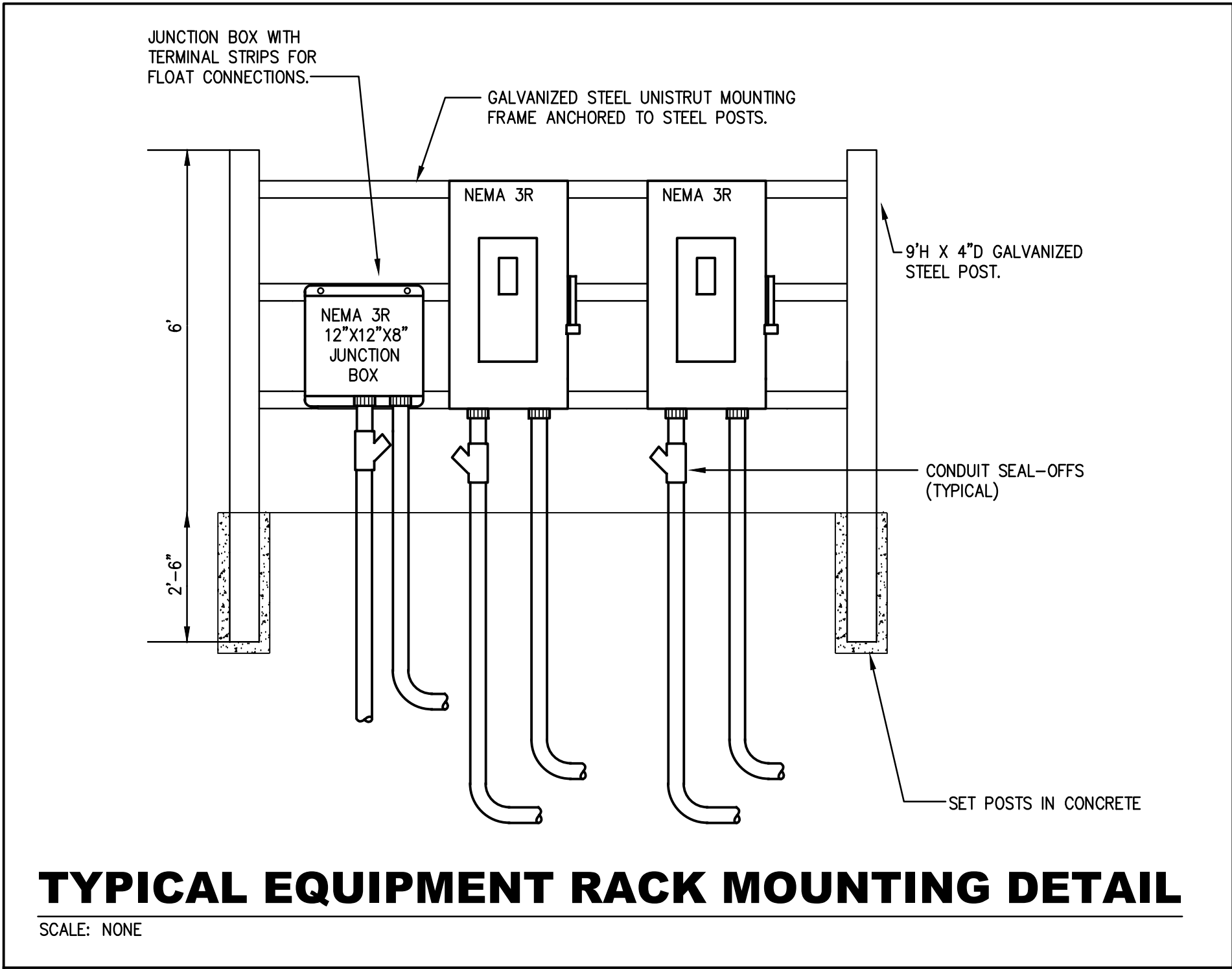
DRAWING NOTES:

- 1 DOSING TANK CONTROL PANEL. 120V, 20A. EXTEND 3/4"C, 2#12, #12GND.
- 2 ORENCO CONTROL PANEL. 120/240V, 200A. EXTEND 2"C, 3#3/0, #6GND. EXTEND 1"C,3#6, #10GND.
- 3 FLOW EQUALIZATION CONTROL PANEL. 120/240V, 60A. EXTEND 1"C,3#6, #10GND.
- 4 MISSION SCADA RTU. 120V, 20A, EXTEND 3/4"C, 2#12, #12GND.
- 5 DOSING FLOWMETER. 3/4"C WITH CABLING TO MISSION RTU FOR MONITORING.
- 6 FLUSHING FLOWMETER AND PRESSURE SENSOR. 3/4"C WITH CABLING TO MISSION RTU FOR MONITORING.
- 7 INFLUENT FLOWMETER ANALYZER. EXTEND 3/4"C, 4C#16TSP TO RTU FOR MONITORING.
- 8 2 EACH PH ANALYZERS. EXTEND 1"C, TWO-4C#16TSP TO RTU FOR MONITORING.
- 9 DOSING TANK CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 10 TREATMENT CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 11 EQUALIZATION CONTROL PANEL ALARMS. 3/4"C, 10#14, #14GND TO RTU FOR MONITORING.
- 12 PH SENSOR. EXTEND 3/4"C, WITH CABLING PH ANALYZER.
- 13 CHEMICAL METERING PUMP ALARMS. 3/4"C, 4#14, #14GND TO RTU FOR MONITORING.

HVAC WIRING NOTES: (THIS SHEET)

- EF1 EF-1, 1/6HP, 120V. PROVIDE MEANS OF DISCONNECT AT FAN. 3/4"C, 2#12, #12GND. INTERLOCK WITH DAMPER AS REQUIRED.
- EF2 EF-2, 1/6HP, 120V. PROVIDE MEANS OF DISCONNECT AT FAN. 3/4"C, 2#12, #12GND. INTERLOCK WITH DAMPER AS REQUIRED.
- UH1 EH-1, 3.3KW, 240V. 3/4"C, 2#10, #10GND.
- UH2 UH-2, 7.5KW, 240V., 1PH. 3/4"C, 2#6, #10GND.
- MOD MOTOR OPERATED DAMPER, INTERLOCK WITH RESPECTIVE EXHAUST FAN SEE MECHANICAL.

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West, Welch, Reed Engineers, Inc.
WWR PROJECT# 120045
THIS DRAWING IS GENERALLY DIAGRAMMATIC AND, EXCEPT WHERE SPECIFICALLY DIMENSIONED OR DETAILED, INDICATES THE GENERAL ARRANGEMENT OF THE WORK. THE CONTRACTOR SHALL INSTALL HIS WORK TO CONFORM AS NEARLY AS POSSIBLE TO THE LOCATIONS AND ARRANGEMENTS SHOWN, WITH ONLY SUCH MINOR ADJUSTMENTS AS NECESSARY TO COORDINATE THE WORK WITH ALL OTHER TRADES TO AVOID INTERFERENCES.

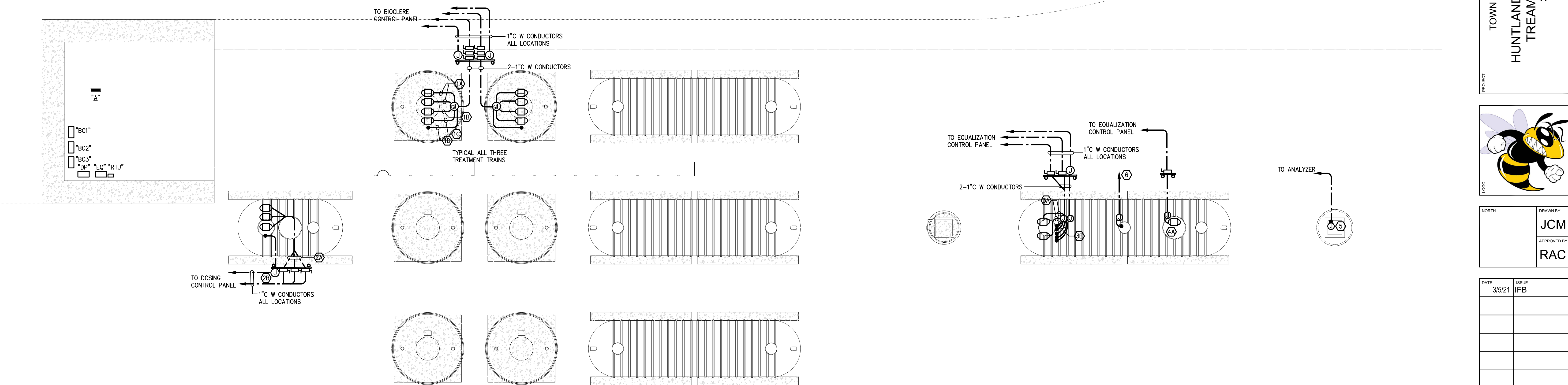


DRAWING NOTES:

- 1A BIOCLERE DOSING PUMP, 1HP., 240V. 1", 2#8, #10GND. 30/20/2 NEMA 3R DISCONNECT.
1B BIOCLERE RECYCLE PUMP, 1HP., 240V. 1", 2#8, #10GND. 30/20/2 NEMA 3R DISCONNECT.
1C BIOCLERE FAN, 26WATTS., 120V. 3/4", 2#10, #10GND.
1D BIOCLERE FLOAT SWITCHES. 1", 12#14, #14GND
2A 3HP 1PH DOSING PUMP, 1"C, 2#6, #10GND. 60/35/2 NEMA 3R DISCONNECT
2B FLOAT SWITCHES LEVEL SENSOR. 2-1"C, 12#14, #14GND, 4C#16TSP.
3A EQ PUMP, .4HP., 120V. 1"C, 2#6, #6GND. 30/20/1 NEMA 3R DISCONNECT.
3B FLOAT SWITCH. 1"C, 12#14, #14GND.
4A EQ MIXER PUMP, 2HP., 240V., 3PH. 1 1/4"C, 3#6, #6GND, 2#14. 30/20/3 NEMA 3R DISCONNECT WITH INTERLOCK KIT.
5 FLOWMETER SENSOR 1"C WITH 4C#16TSP, #10GND TO ANALYZER.
6 PH SENSOR 1"C WITH 4C#16TSP, #10GND TO ANALYZER.

GENERAL NOTES:

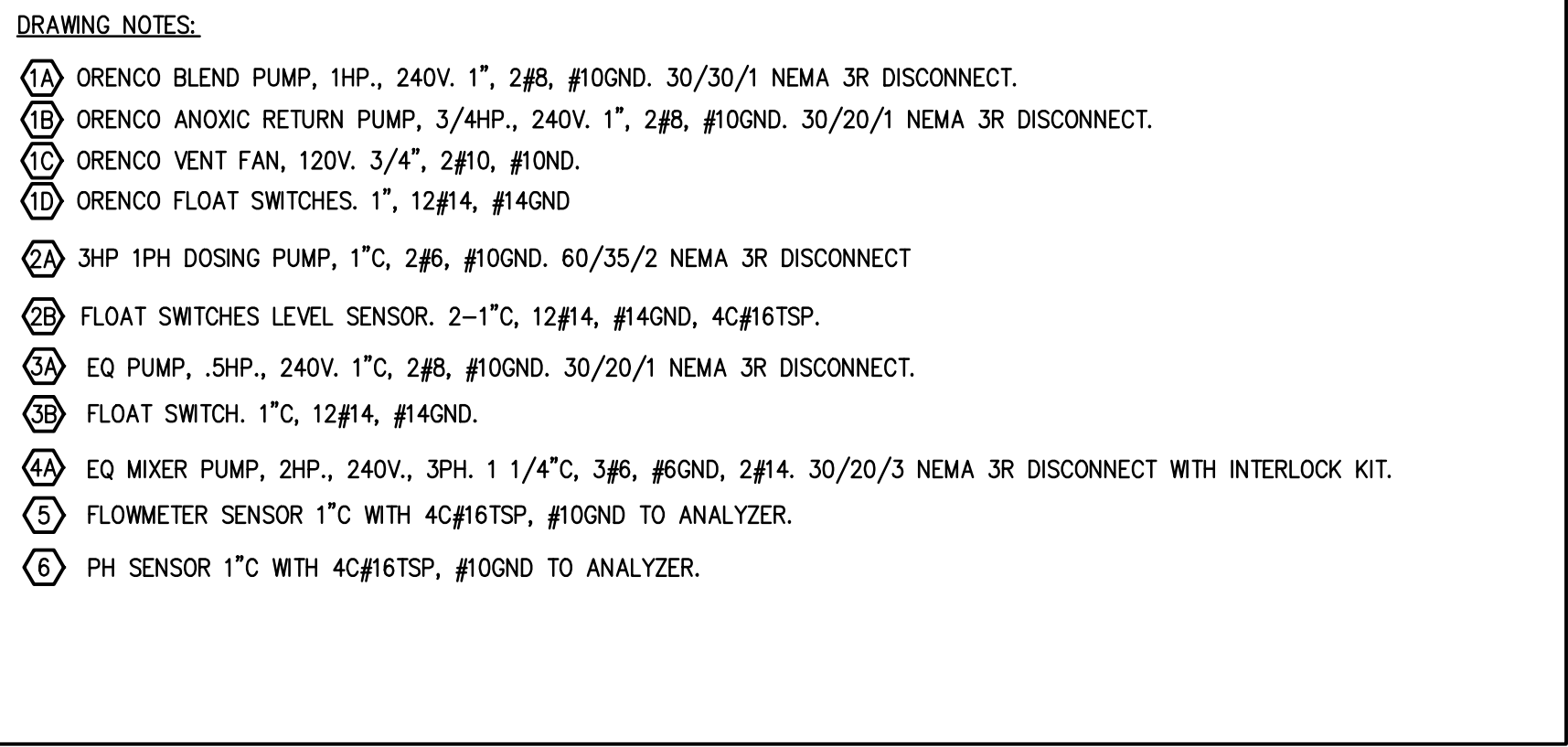
1. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
2. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.
3. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL CONDUIT. ALL BOXES AND CLAMPS SHALL BE STAINLESS STEEL.
4. FINAL CONDUIT CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
5. ALL SPARE CONDUITS SHALL BE EQUIPPED WITH NYLON PULLCORDS.
6. ALL WET WELL AND EQUALIZATION TANK AREAS SHALL BE CLASSIFIED AS CLASS 1 DIVISION 1 HAZARDOUS LOCATIONS. ALL WIRING SHALL BE LISTED FOR HAZARDOUS USE IN THESE AREAS. PROVIDE CONDUIT SEALS FOR ALL WIRING LEAVING CLASSIFIED ZONES. INSTALL PER NEC.
7. ALL UNDERGROUND CONDUITS SHALL BE LOCATED IN CONCRETE ENCASED DUCT BANKS. SEE DETAIL SHEET GE1.



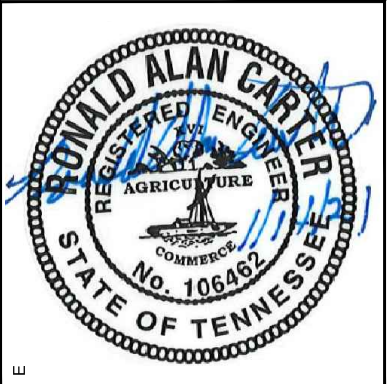
AQUAPOINT PLAN - ELECTRICAL

SCALE: 1/8"=1'-0"

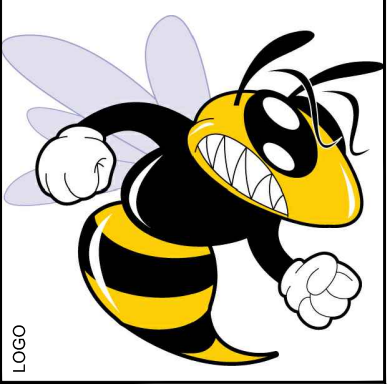
WWR ENGINEERS INC. 5417 Ball Camp Pike Knoxville, Tn 37921 Phone: (865) 588-2431 Fax: (865) 588-2434
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- FOXPE**
ENGINEERING FOR THE
WATER ENVIRONMENT
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PROJECT
TOWN OF HUNTLAND
HUNTLAND WASTEWATER
TREATMENT PLANT
3700-004



NORTH	DRAWN BY
	JCM
	APPROVED BY
	RAC

[illegible]

TITLE	ORENCO PLAN - ELECTRICAL
DRAWING NO.	E4

